

---

---

**INTEGRATED SAFETY MANAGEMENT SYSTEM  
PHASE I VERIFICATION**

**for**

**BNFL Inc.**

---

---

**FINAL REPORT**



**August 2000**

Phase I Integrated Safety Management System Verification  
for BNFL Inc.

Review Team Approval

Robert D. Dempsey: Robert D. Dempsey  
ISMS Verification Team Leader

Date: 7/14/00

Harold J. Monroe: H. Monroe  
Senior Advisor

Date: 7/14/00

Brenda Hawks: Brenda L. Hawks  
Hazard Identification and Standards Selection Subteam Leader

Date: 7/14/00

Judith Stroud: Judith Stroud  
Management and Business Subteam Leader

Date: 7/14/00

Jeff Cravens: Jeff Cravens  
Operations Subteam Leader

Date: 7/14/00

Bobby J. Davis: Bobby J. Davis  
Subject Matter Experts Subteam Leader

Date: 7/14/00

Table of Contents

List of Acronyms ..... -ii-

EXECUTIVE SUMMARY ..... -iv-

1.0 INTRODUCTION ..... -1-

2.0 PURPOSE ..... -1-

3.0 SCOPE ..... -1-

4.0 PREREQUISITES ..... -1-

5.0 OVERALL APPROACH ..... -2-

    5.1 Review Approach ..... -2-

    5.2 Sequence of Activities ..... -3-

6.0 ASSESSMENT OF THE BNFL ISMS DESCRIPTION ..... -3-

    6.1 Overview ..... -3-

    6.2 HAZ Subteam Summary ..... -3-

    6.3 MG Subteam Summary ..... -5-

    6.4 SME Subteam Summary ..... -8-

    6.5 Variations from the Verification Plan ..... -11-

7.0 RECOMMENDATIONS ..... -11-

8.0 LESSONS LEARNED ..... -11-

APPENDIX A: VERIFICATION TEAM ROSTER

APPENDIX B: ASSESSMENT FORMS

**List of Acronyms**

ALARA	As Low As Reasonably Achievable
AMAU	Assistant Manager for Assets Utilization
AMEM	Assistant Manager for Environmental Management
BIO	Basis for Interim Operations
BNFL	BNFL Inc.
CAP	Corrective Action Plan
CATS	Corrective Action Tracking System
COR	Contracting Officer's Representative
CRAD	Criteria Review and Approach Document
D&D	Decontamination and Decommissioning
DEAR	DOE Acquisition Regulation
DOE	Department of Energy
DOE-ORO	Oak Ridge Operations
DOE-ORO FRAM	ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS
EH-2	Headquarters Office of Independent Oversight
EM	Environmental Management
ES&H	Environment, Safety, and Health
ETTP	East Tennessee Technology Park
EWP	Enhanced Work Planning
HAZ	Hazard Identification and Standards Selection (subteam)
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
LCO	Limiting Conditions of Operation
LEU	Low Enriched Uranium
MG	Management and Business (subteam)
M&I	Management and Integrating
M&O	Management and Operating
OFI	Opportunity for Improvement
OSHA	Occupational Safety and Health Administration
PAAA	Price-Anderson Amendments Act
POD	Plan of the Day

R/CAAS	Radiation/Criticality Accident Alarm System
RPP	Radiation Protection Program
RST	Radiological/Safety Technician
RWP	Radiation Work Permit
SER	Safety Evaluation Report
SME	Subject Matter Expert (subteam)
S/RID	Standards/Requirements Identification Document
TSR	Technical Safety Requirements
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination
WSS	Work Smart Standards
1027	DOE-STD-1027-92

## EXECUTIVE SUMMARY

Department of Energy (DOE) Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, requires that an Integrated Safety Management (ISM) System be institutionalized in each major prime contract in the DOE complex. The purpose of such a system is to ensure that work is conducted efficiently and in a manner that ensures protection of the worker, the public, the environment, and the facility. DOE Acquisition Regulation (DEAR) 48 CFR 970.520-2 requires that the Contracting Officer provide guidance to the contractor as to the preparation, content, review, and approval of its ISM System (ISMS).

BNFL Inc. (BNFL) has a direct contract with Oak Ridge Operations (DOE-ORO) for the Three Building Decontamination and Decommissioning (D&D) and Recycle Project at the East Tennessee Technology Park (ETTP). The BNFL contract is a fixed price contract that incorporates a tailored version of the DEAR clause for ISM. BNFL has documented its ISMS in PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, dated May 24, 2000.

A combined Phase I/II verification of the ISMS for BNFL was planned for accomplishment during June and July 2000. The Phase I portion of the verification, which was conducted between June 19-30, addressed the adequacy of the ISMS description and related procedures, policies, and mechanisms. The Phase II portion to verify the actual implementation of the system was begun on July 10. Significant shortcomings in BNFL's implementation caused the suspension of the verification on July 12 and a delay until a future date of the Phase II activities.

BNFL met the core expectations for Phase I of the ISMS verification. BNFL's safety management program has been established at the project level for the Three Building D&D and Recycle Project at ETTP (formerly called the K-25 site or the Oak Ridge Gaseous Diffusion Plant). BNFL Policy PO-SS-017 documents its ISMS in a manner that is consistent with DOE Policy 450.4, the ISM clause in their contract with DOE-ORO, and the ISMS guidance provided to DOE-ORO contractors by the DOE-ORO Manager. The ISMS description clearly establishes that at every level of control the BNFL line managers are responsible and accountable for safety.

The BNFL policy and procedural system has been designed to satisfy the quality system standard ISO 9001. The framework for this system is sound, but it is not fully implemented and is in a state of change. BNFL's policies and procedures under this system establish an Enhanced Work Planning (EWP) process that includes methods for identifying, analyzing, and categorizing hazards. The Hazard Identification and Standards Selection (HAZ) and Subject Matter Expert (SME) subteams identified several "Opportunities for Improvement"(OFIs) in this process.

A set of Work Smart Standards (WSS) was negotiated between DOE and the contractor and was included in the DOE-ORO contract with BNFL. The WSS set has been updated and maintained using an informal process established between the DOE-ORO Three Building D&D and Recycle Project Manager/Contracting Officer's Representative (COR) and the contractor. The WSS set in the contract has not been formally changed by a modification to the contract. The Assistant Manager for Assets Utilization's (AMAU) organization needs a procedure to formalize the review and approval process currently being followed for WSS set revisions.

No "Noteworthy Practices" were identified for BNFL during Phase I. BNFL's top management does deserve credit for their stated and demonstrated commitment to ISM's goal of performing work safely and the improvement in accident rates that they have accomplished since they took over in August 1999.

**RECOMMENDATIONS**

The verification team for the Phase I ISMS verification for BNFL makes the following recommendations:

1. The DOE-ORO Manager should approve the BNFL ISMS description that was submitted as BNFL procedure PO-SS-0017, Revision 0, dated May 24, 2000.
2. The AMAU and BNFL should be directed to resolve the OFIs identified in this Phase I ISMS Verification Final Report and the areas of concern regarding implementation of the ISMS by BNFL that were provided separately to the AMAU by letter from the ISMS Verification Team Leader, dated July 14, 2000.
3. The AMAU should verify that the improvements identified in Recommendation 2 above have been made in BNFL's documentation and performance prior to requesting the restart of Phase II of this ISMS verification.

# **Phase I Integrated Safety Management System Verification Final Report for BNFL Inc.**

## **1.0 INTRODUCTION**

DOE Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, requires that an ISMS be institutionalized in each major prime contract in the DOE complex. The purpose of such a system is to ensure that work is conducted efficiently and in a manner that ensures protection of the worker, the public, the environment, and the facility.

This verification was conducted by direction of the DOE-ORO Manager. The DOE-ORO Manager appointed Robert Dempsey as the Team Leader for the verification in her memorandum dated May 3, 2000. The assembled ISMS verification team reviewed the contractor's submittal, associated documentation, and implementation. This report documents the team's conclusions and recommendations regarding approval. The verification was performed in accordance with the protocol for ISMS verifications specified in DOE-HDBK-3027-99, INTEGRATED SAFETY MANAGEMENT SYSTEM VERIFICATION TEAM LEADER'S HANDBOOK, dated June 1999, and DOE G 450.4-1A, INTEGRATED SAFETY MANAGEMENT SYSTEM GUIDE, dated May 1999.

## **2.0 PURPOSE**

The Phase I verification of the BNFL ISMS was conducted to verify that the system fulfills the expectations of the DOE-ORO Manager and meets the requirements of the DEAR clause and the DOE Policy for Safety Management Systems. The ISMS verification team was tasked to provide a recommendation to the DOE-ORO Manager on whether or not to approve the BNFL ISMS description, and this Final Report delineates any areas where the ISMS description does not conform to the guidance provided, the DEAR, and/or DOE Policy 450.4.

To reach a conclusion regarding the BNFL ISMS description, it was necessary to develop a complete understanding of the safety management programs comprising the system to determine if the description satisfies both DOE's requirements and the DEAR and is adequate to manage the work safely. The verification of the BNFL ISMS description utilized previous assessments and corrective actions, as applicable. The Phase I ISMS verification assessed the adequacy of the ISMS description and the referenced manuals of practice (mechanisms) in fulfilling ISMS requirements. The verification also included an assessment of the adequacy of the DOE's documentation of its responsibilities as they relate to ISM interface functions, responsibilities, and authorities.

## **3.0 SCOPE**

The scope of the BNFL Phase I ISMS verification addressed all mission and supporting work. The scope included a review of BNFL's business practices; management and organization; hazard identification and standards; project management activities (both self-performed and subcontracted); mission support functions (Environment, Safety, and Health [ES&H] functional areas); and DOE interfaces. The Phase I verification determined the adequacy of the ISMS description, including a review of the procedures, policies, and manuals of practice used to implement safety management.

## **4.0 PREREQUISITES**

The conditions that were met prior to the actual on-site verification are as follows:

1. BNFL and the AMAU determined BNFL's ISMS strengths and weaknesses through the use of self-assessments. The documented results of these self-assessments were provided to the verification team.



2. The Team Leader, in consultation with the AMAU, selected the ES&H crosscutting and functional areas to be included in the scope of the ISMS verification. These were determined based on strengths and weakness identified through recent BNFL self-assessments and other assessments.
3. Prior to starting the on-site review, BNFL provided a statement of readiness for Phase I of the ISMS verification and its written ISMS description.
4. The DOE-ORO Manager appointed Robert Dempsey, Deputy Assistant Manager for the DOE-ORO Office of Environment, Safety, Health, and Emergency Management, as the Team Leader for the ISMS verification in her memorandum dated May 3, 2000. The appointment memorandum specified the scope of the review and provided additional guidance, as necessary.

## 5.0 OVERALL APPROACH

### 5.1 Review Approach

The ISM verification was a documented management assessment conducted using a multidisciplined team of specialists that was led by a DOE-ORO technical team leader. The approach for the ISMS verification of BNFL was principally an assessment of management systems.

The Phase I verification was conducted using the Criteria Review and Approach Documents (CRADs) developed by the Team Leader, assisted by three functional subteams: HAZ, Management and Business (MG), and SME.

The subteams were tasked as follows:

**HAZ Subteam** – The HAZ subteam was tasked to review (a) the DOE and BNFL processes for ISMS relating to hazards analysis, (b) the processes related to the identification of safety standards/requirements, and (c) tailoring of controls to the work being performed. In addition, this subteam reviewed line management responsibilities and feedback as they relate to hazards identification and standards selection.

**MG subteam** – This subteam was tasked to determine whether the ISMS description is consistent with DOE Policies, the DEAR, and direction from the DOE-ORO Manager. This subteam determined whether BNFL has mechanisms in place for integrated implementation of the ISMS, roles and responsibilities are clearly defined and maintained, interfaces with other organizations are established and effective, line management has responsibility for safety, hazard controls are identified and implemented before work commences, and processes are in place for feedback and continuous improvement. The BNFL contract is a fixed price contract that incorporates the ISM DEAR clause. This subteam also determined if DOE-ORO has documented processes to interface effectively with BNFL, technical competence is commensurate with assigned responsibilities, feedback and continuous improvement mechanisms are in place, and line oversight of BNFL is conducted. This subteam reviewed BNFL's processes for defining work; resource definition, allocation, and prioritization; and translation of ES&H requirements to subcontracts and lower-tier subcontracts if applicable. This subteam focused on the business-related activities and ISMS functions and principles performed by BNFL organizations.

**SME subteam** – The SME subteam was tasked to review selected ES&H crosscutting and functional areas included in the scope of the ISMS verification. These selected ES&H areas were determined based on strengths and weakness identified through BNFL's ISMS self-assessments and the ES&H performance measures. This subteam focused on the operations support-related activities and ISMS functions performed by the support and staff organizations. The specific subject matter areas reviewed were environmental protection, fire protection, industrial hygiene and occupational health, radiation protection, safety, and training and qualification.

## **5.2 Sequence of Activities**

The ISMS Phase I verification team was established to conduct the verification. The Team Roster is contained in Appendix A. Team qualification forms were included in the Verification Plan. The team developed CRADs to guide the review. The CRADs are contained in the Verification Plan.

- **Inbrief, May 31, 2000**

A two-part inbrief was held. The first part of the inbrief included ISM training and expectations for the verification from the Team Leader and a presentation by the COR for BNFL. The second part of the inbrief was held at Building K-33 at ETTP and included presentations from BNFL management. During this meeting, BNFL discussed its ISMS, identified key personnel, and answered questions from the verification team.

- **Phase I – June 19-30, 2000**

The team received required security and site access training from BNFL. The remainder of the time was primarily devoted to document reviews, interviews, and completion of the Phase I assessment forms.

- **Outbrief, July 12, 2000**

The outbrief was held at Building K-1400 at ETTP with attendance from the COR and BNFL. The Team Leader summarized the results of the verification and the recommendations that the team would make to the DOE-ORO Manager.

## **6.0 ASSESSMENT OF THE BNFL ISMS DESCRIPTION**

### **6.1 Overview**

For Phase I, the team found that PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, dated May 24, 2000, satisfies the requirements of the DEAR clause, the expectations of the DOE-ORO Manager, and other DOE management requirements.

### **6.2 HAZ Subteam Summary**

The HAZ subteam reviewed activities against three Phase I ISM objectives. These objectives are as follows:

- Hazards associated with the work are identified, analyzed, and categorized.
- Applicable standards and requirements that mitigate the identified nuclear, chemical, industrial, and other hazards present are identified, maintained, and agreed upon.
- BNFL's and DOE-ORO procedures ensure that BNFL personnel responsible for analyzing the hazards and developing, reviewing, or implementing the controls, have competence that is commensurate with their responsibilities. BNFL and DOE-ORO's roles and responsibilities are clearly defined to ensure appropriate oversight and review of the analysis of hazards and the identification of controls. Personnel shall possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.

Acceptability was judged against a total of 13 criteria within these 3 objectives. Overall, the subteam judged that the DOE-ORO and BNFL ISM process satisfies the three objectives. Within the 3 objectives, 8 of the 13 criteria were met, no Noteworthy Practices were identified, and 5 OFIs were noted.

The subteam based its Phase I assessments primarily on document reviews. A few confirmatory interviews were conducted to clarify potential issues. The subteam reviewed documents that ranged from the BNFL contract to working-level procedures.

The EWP procedure, PR-RO-005, clearly states the Group Manager is responsible for “ensuring that the EWP task plan is adequately developed and a comprehensive hazard analysis is performed prior to the start of a task.” The EWP team is responsible for “identifying potential hazards for the defined task or hazards that may be introduced from concurrent work tasks” and “developing hazard controls that include identifying and applying applicable standards, identifying and applying controls to prevent and mitigate hazards, and where applicable, establishing the threshold limits above which safety margins may be degraded.” This process provides a means to identify and control hazards for initial issuance of an EWP task plan. The implementation of this procedure relies heavily on the ability of the Group Manager during execution of the EWP process. Revisions to the EWP task plan are not required to meet the same criteria set for review and approval of the original EWP task plan unless the revision involves a change to a safety significant system as defined in the authorization basis documents. This change process is not adequate for assurance of identification and implementation of controls.

The Phase I review verified that administrative processes are in place to identify, analyze, categorize, and mitigate hazards. However, implementation of the existing administrative process requires extensive knowledge, understanding, and diligence on the part of various personnel to ensure that hazards are properly identified and controlled. The BNFL procedures do not ensure that personnel possess the required knowledge and understanding to ensure adequate implementation. A review of qualifications of personnel currently in various positions indicates that subject matter experts are qualified to perform their responsibilities in regard to hazard analysis and control.

### **HAZ Subteam Opportunities for Improvement**

- HAZ.1-2-OFI.1** Attachment 1 of the EWP Task Plan, Phase 2, “Subject Matter Expert Needs Assessment,” does not adequately address all potential issues/violations in the authorization basis compliance section. The potential exists for screening out an area due to lack of global expertise by the person completing the screening. The EWP needs assessment is not adequate to ensure that the activities are compatible with the existing Basis for Interim Operations (BIO), Technical Safety Requirements (TSR), and all approved Unreviewed Safety Question Determinations (USQDs) generated since the last update of the BIO.
- HAZ.2-1-OFI.1** BNFL does not currently have an active procedure for non-electrical lockout/tagout.
- HAZ.2-2-OFI.2** The EWP procedure, PO-RO-005, does not ensure that controls are tailored to the hazards associated with the work or operations to be authorized. The hazard assessment form in Attachment 3 provides a good list of standard hazards and the accepted standard to control each hazard. Attachment 1, Phase 3, “Work Plan Meeting” on page 3 provides a form for recording hazards and controls identified. However, the EWP procedure does not contain sufficient instructions for completing these forms to ensure that the controls are tailored to the hazards.

- HAZ.2-5-OFI.3** An AMAU procedure is needed to formalize the review and approval process currently being followed for WSS set revisions.
- HAZ.2-7-OFI.4** There is no delegation of authority for the AMAU to approve safety basis documents (i.e., BIO, TSR, safety authorizations, Unreviewed Safety Questions [USQs], and Safety Evaluation Reports [SERs]) or startup/restart activities.

### **6.3 MG Subteam Summary**

**Overview** – Since DOE’s prime contract with BNFL is a fixed price contract, the MG subteam’s review was tailored to address ISM in context with a fixed price contract. Certain ISMS-related requirements that apply to a Management and Operating (M&O) or Management and Integrating (M&I) contractor were not applied to BNFL.

The BNFL ISM DEAR clause (Clause H-4) is tailored to the fixed price contract and does not require annual ES&H performance objectives or expectations. Clause H-4 was in the original contract as the result of a tripartite negotiation by DOE Headquarters, DOE-ORO, and BNFL.

The BNFL fixed price contract is a performance-based contract in which performance/payment milestones establish a schedule whereby BNFL receives payment for successful completion of specified milestones. DOE’s involvement with prioritization of work/tasks is limited to the milestones set forth in the contract. DOE is essentially “hands-off” with respect to BNFL’s work processes except in the area of ES&H. DOE has stop work authority for ES&H issues. The contractor’s budgeting and long-range planning documents, which are normally used in ISMS verifications of M&O/M&I contracts, were not available or appropriate for verification of ISMS under the fixed price contract with BNFL.

During Phase I of the review, the MG subteam was tasked to provide input on the adequacy of the BNFL ISMS description and determine if policies, procedures, and mechanisms are in place for integrated implementation of the ISMS.

Six Phase I objectives with 23 criteria and one Phase I/II objective with 6 criteria were established as the basis for the review. All six Phase I objectives were met. Final assessment of the combined Phase I/II objective will be completed during Phase II. As a result of the Phase I review, two MG OFIs were identified for BNFL and three MG OFIs were identified for DOE-ORO. No Noteworthy Practices were identified for either BNFL or DOE-ORO.

**BNFL** – BNFL underwent a major reorganization in September 1999, at which time Jim McAnally became the General Manager. Under Mr. McAnally’s leadership, numerous changes are taking place, with an emphasis on worker involvement and management presence in the field. Some examples include the following:

- Every employee has stop work authority.
- Workers as well as management are involved in planning the work, hazard identification, identification of controls, and feedback as part of the EWP process.
- The Safety Committee, which is made up of 50% workforce and 50% management, is empowered to drive the safety program and culture, and it has implemented a tracking system for safety issues and concerns.

Documentation of the BNFL ISMS exists, but it is continually being revised because the project documentation is transitioning from a system of management instructions/instructional guides to a system based on a set of policies and procedures. Once the transition is complete, the documentation should be easier to use than the previous system.

The BNFL ISMS description is consistent with the DOE Policies 450.4 and 450.6, the DEAR clauses (as modified for this fixed price contract), and the guidance from the DOE-ORO Manager. DOE Policy 450.5 is not part of this fixed price contract, but many of the key elements of this policy have been incorporated in the BNFL ISMS description. BNFL uses both Management Assessments and Independent Assessments to measure system effectiveness. As part of the Issues Management procedure, issues from internal and external sources are prioritized, documented, and analyzed for cause, and corrective actions are identified and tracked to closure.

The ISM Implementation Manager is responsible for ISM program development, implementation, training development, and improvement activities. BNFL conducts ongoing evaluations to identify program weaknesses and makes revisions to the ISMS description as needed by using an established change control process.

BNFL has instituted a Safety Committee that meets weekly. The Safety Committee Meetings are well run and very effective. A significant amount of time is spent on a wide range of safety and safety-related issues. There is a free flow of information without reluctance on the part of anyone involved. Issues brought to the committee are added to an issues database, assigned to a responsible individual, estimated completion dates are established, and issues are tracked to completion. Detailed minutes are kept and are widely posted at worker stations. While the Safety Committee and its meetings are commendable, currently no documentation for the process exists. Formalizing this process would be prudent.

BNFL has policies and procedures that define clear roles and responsibilities of personnel to ensure that safety is maintained at all levels, including subcontractors. Operations line management is responsible and accountable for ensuring that work is performed and executed according to the ISM Program. The senior core management team recognizes that line management responsibility, good management systems, and worker involvement are the key elements of an effective ISM program. One area of concern is the adequacy of BNFL's process for establishing Position Descriptions. The MG subteam identified a trend that Position Descriptions do not fully describe the duties/responsibilities of the position and are tailored to reflect the qualifications of the person currently occupying the position rather than the necessary qualifications for the position. BNFL's process for establishing Position Descriptions should be revised.

BNFL's mission requirements are set forth in the contract as performance/payment milestones. BNFL translates contract requirements into approved scopes of work by using the EWP process, and the Plan of the Day (POD) Meeting is used to authorize work and ensure coordination between the various organizations involved. The EWP process is also used for a revision to a scope of work at the task level. Revisions are either an "intent" change or a "non-intent" change. An intent change is defined as a change made to work documents for safety significant systems identified in the authorization basis documents. A non-intent change is defined as a change made to work documents or systems other than safety significant systems. In the current BNFL EWP process, a non-intent change only requires approval by the Group Manager; however, an intent change requires the same level of review and approval as the original EWP task document. There are numerous systems/activities that are not considered safety significant systems. However, making a change in scope for these could increase the potential for introducing significant safety issues that would not be reviewed/approved by the EWP team, including cognizant subject matter experts. The definition of non-intent change should be redefined in such a manner as to prevent a compromise in safety.

The BNFL Administration Manager is responsible for ensuring that all subcontracts contain a clause substantially the same as the BNFL ISM clause (H.4). Subcontractors may implement the BNFL ISM Program or have their own ISMS description, Health and Safety Plan, and Hazard Communication Program reviewed and approved by BNFL prior to starting work.

BNFL's process for ensuring that resources are available for all activities of the project is documented in *Establishing the Project Technical, Cost, and Schedule Baseline*. BNFL's prioritization and allocation process addresses both ES&H and programmatic needs and ensures balanced priorities. In the EWP process, the Group Manager is responsible for (a) defining the scope of work, (b) ensuring that appropriate subject matter experts are consulted, and (c) ensuring that hazard analyses are performed prior to the start of the task. The EWP is one of the mechanisms that BNFL uses to integrate ES&H functions into the work process.

BNFL's procedures require line and independent oversight or assessment activities at all levels. They use the EWP process to incorporate lessons learned and near-miss databases into work planning. The issues management database is used as a tool for tracking issues and corrective actions and for producing reports. Although annual ES&H performance objectives are not required by contract, BNFL has developed its own performance measures and tracks its Lost Workday Case Rate, Total Recordable Injury Rate, and First Aid Case Rate. This data is shared with senior staff and the Safety Committee, and it is posted in the workplace.

BNFL has processes in place for resolving safety issues identified by Headquarters Office of Independent Oversight (EH-2).

**DOE-ORO** – The DOE-ORO Manager has clearly stated her responsibility and accountability for safety in all DOE-ORO programs. She transmitted specific implementation guidance to the Assistant Managers in September 1999. The verification team could not confirm that the COR formally transmitted this guidance to BNFL as technical direction for establishing its ISMS.

DOE-ORO Orders and ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS (DOE-ORO FRAM) assign responsibility for safety to the line Assistant Managers, their subordinate managers, and their CORs. It is evident from discussions that the COR unequivocally understands that ultimate responsibility for safety belongs with the line organization.

While the DOE-ORO FRAM assigns functions, responsibilities, and authorities for the field office, individual organizations are responsible for establishing lower-tier implementing documents to specify how their functions and responsibilities will be accomplished. This is only partially satisfied by a Memorandum of Understanding between the AMAU and the AMEM, which establishes clear roles and responsibilities associated with the EM Facility Representative Program, and the AMAU's *Department of Energy/Oak Ridge Operations Baseline Change Control Board Operating Procedures for the East Tennessee Technology Park Three-Building Decommissioning Recycle Project*, which is used for reviewing and processing changes to the contract baseline. Additional implementing documents specifying other roles and responsibilities related to the BNFL contract do not exist. Furthermore, the Position Description for the COR has not been fully updated to properly reflect the interfaces and responsibilities associated with this position since its transfer from the Assistant Manager for Construction and Engineering to the AMAU.

The COR is responsible for the BNFL contract, but he has no direct staff to assist in discharging his duties. In accordance with the Memorandum of Understanding noted above, he uses two EM Facility Representatives to conduct oversight of BNFL on his behalf. He is also aided in his oversight of BNFL by two subcontract employees who provide construction oversight and perform surveillance of all contract activities performed by BNFL. The subcontract employees inspect BNFL's work for compliance with contractual and regulatory requirements and coordinate their efforts with those of the Facility Representatives. The COR and the two EM Facility Representatives are included in the Technical Qualification Program that requires attainment of a specified level of technical competency for the responsibilities for which they are assigned. From information available during Phase I, it was not possible to assess what technical qualifications are required for the two

subcontractors nor to ascertain whether their competence is commensurate with their responsibilities. This will be further evaluated during Phase II.

Appropriate DOE-ORO directives have been issued for developing, implementing, and approving Corrective Action Plans (CAPs), and ORO has brought a corrective action tracking system on-line to facilitate resolution of EH-2 or other independent assessment issues. The COR has various processes (e.g., Facility Representative Program, management assessments, walkthroughs, subject matter expert reviews, and periodic and for-cause reviews) for verifying that BNFL does what is necessary to meet the obligations of the corrective action program. Neither the AMAU nor the COR has any written procedures to specify how field verifications are conducted to ensure that corrective actions are implemented and issues closed.

### MG Subteam Opportunities for Improvement

- |                     |  |
|---------------------|--|
| <b>MG-2.4-OFL.1</b> | BNFL should revise its process for establishing Position Descriptions to reflect the true requirements and qualifications for the position rather than tailoring the Position Description to the individual currently occupying the position.  |
| <b>MG.3-3-OFL.1</b> | In PR-RO-005, <i>Enhanced Work Planning</i> , Revision 2, dated June 6, 2000, a non-intent change should be redefined to limit these types of changes to correction of administrative errors, typographical errors, and other errors that do not have potential to adversely impact safety.  |
| <b>MG.6-3-OFL.1</b> | The AMAU and/or the COR need to develop written procedures to specify how field verifications are conducted to ensure that corrective actions are implemented and issues closed.   |
| <b>MG.9-2-OFL.1</b> | The AMAU should prepare implementing documents to specify how the AMAU organization's roles and responsibilities as assigned by the DOE-ORO FRAM are to be accomplished.   |
| <b>MG.9-2-OFL.2</b> | The Position Description for COR has not been fully updated to properly reflect the interfaces and responsibilities associated with this position's transfer from the Assistant Manager for Construction and Engineering to the AMAU. The Position Description needs to be revised to be consistent with current organizational structure. |

### 6.4 SME Subteam Summary

The SME subteam verification activities encompassed six ES&H functional areas—environmental protection, fire protection, industrial hygiene and occupational health, radiation protection, safety, and training and qualification. Phase I verification activities were directed at determining the adequacy of the BNFL management systems for these functional areas as reflected in policies, procedures, and supporting documents. The subteam's activities included a detailed assessment of the adequacy of assignment of roles and responsibilities and of the requirements for competency of line and support personnel to perform their assigned work.

All six objectives evaluated during Phase I were met, although OFIs were identified in the areas of fire protection (1 OFI), safety (5 OFIs) and training and qualification (3 OFIs). Overall, in Phase I, the SME subteam concluded that policies and procedures with respect to the functional areas examined, if fully implemented, are adequate for

work activities to be performed safely. As discussed below, OFIs were focused in two areas— policies and procedures configuration management/quality and integration of all training activities in the project-wide system. These are discussed in more detail below. No Noteworthy Practices were identified.

**Environmental Protection** – BNFL’s policies, procedures, and documents to protect the environment were reviewed and were found to be established and adequate for the work or process to be performed safely. All specific criteria under the objective were reviewed and found to be met.

**Fire Protection** – BNFL has established a unified system (EWP process) to scope work, identify hazards, and establish controls. The EWP process integrates BNFL’s policies, procedures, and documents for safe performance of work or processes with respect to fire protection. The effectiveness of this process is clearly dependent on management’s consistent use of the system. Two OFIs were identified. One improves the integration of the Fire Protection Program into the Safety Program. The second OFI was consolidated with MG.3-3-OFI.1 to address the revision process for existing EWPs.

**Industrial Hygiene and Occupational Health** – The BNFL ISMS description and supporting documents and line management processes were reviewed and found to adequately establish needed industrial hygiene and occupational health controls for safe accomplishment of work. Policies and procedures clearly establish line management is responsible for health and safety of the workers. The professional health staff who plan, control, and conduct work are required to be competent.

**Radiation Protection** – The procedures, policies, and other supporting documents used to implement safety management satisfactorily integrate radiation safety and are adequate for the work to be performed safely. The requirements of 10 CFR 835 are appropriately addressed in the BNFL *Radiation Protection Program Plan*. A well-developed Radiation Work Permit (RWP) process is used as the cornerstone for establishment of radiological controls for work activities. Radiation protection is a key element of the EWP process.

**Safety** – BNFL’s policies, procedures, and documentation that cover safety are adequate for the work to be performed safely. Of the five criteria for safety, three were met and two were not met. Specifically, work procedures and hazard control measures were partially in place, but deficiencies were noted in dating and approval requirements in policy and procedure requirements documents (see SME-SAF.1-1-OFI.1 and SME-SAF.1-1-OFI.2). Procedures reviewed that cover safety requirements and controls were acceptable. Work planning and control procedures were in place but had deficiencies relating to EWP and Readiness Assessment (see SME-SAF.1-3-OFI.3 and SME-SAF.1-3-OFI.4). Policies and procedures adequately defined line management responsibility for safety. Documents reviewed do require personnel competence for those who plan, control, and conduct work, but one deficiency was noted relating to definition of EWP training requirements (see SME-SAF.1-5-OFI.5).

**Training and Qualification** – BNFL’s policies, procedures, plans, assessments programs, and other associated documentation were reviewed to verify whether the BNFL Training and Qualification Program is well defined and documented. Interviews were conducted with various levels of management concerning the Training and Qualification Program documentation. The BNFL Training and Qualification Program is in place and addresses the areas in the DOE Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, dated October 1996. The project training program is documented in PO-CS-500, *Training Plan*, Revision 3, dated May 31, 2000. In addition, training requirements and controls are also documented and flowed down through subcontracts. PO-CS-500, *Training Plan*, clearly states that line management (i.e., Manager, Group Manager, Supervisor, and Foreman) are responsible for assuring that training and qualifications requirements are met by employees. The *Training Plan* also incorporates the identification of roles and responsibilities, duties, and qualifications through Position Descriptions. In addition, training requirements are also captured in policies, procedures, and EWPs.



The Phase I review of training and qualification identified several issues. In reviewing several EWP, it was noted that the training requirements listed in the EWP also required on-the-job training. Neither PO-CS-500, *Training Plan*, nor PR-RO-005, *Enhanced Work Planning*, defined the requirements or process for on-the-job training (see SME-T&Q.1-3-OFL.1). In addition, it was unclear through review of the documentation (i.e., *Training Plan*) whether EWP training is required to be captured in the training needs assessment and documented in the training matrix that is sent out periodically to each supervisor (see SME-T&Q.1-3-OFL.2). PO-CS-500, *Training Plan*, Revision 2, does not address how training requirements for new or revised documents are to be captured. PR-CS-001, *Required Reading*, addresses a process for evaluating documents as candidates for required reading training. However, it does not cover other documents outside of that process (see SME-T&Q.1-3-OFL.3).

### SME Subteam Opportunities for Improvement

- SME-FP.1-2-OFL.1** The Occupational Safety and Health Administration (OSHA) requirements for fire protection, such as means of egress and control of combustibles, should be integrated into the BNFL *Health and Safety Plan*.
- SME-SAF.1-1-OFL.1** PR-CS-004 should be revised to require revisions of all policies and procedures to show current approvals and revision dates for reviewer and owner, not just for the author. Also, the term “independent” in Attachment 1 of PR-CS-004 should be defined to assure that procedures are not reviewed by someone working in the same group or supervisory chain as the author.
- SME-SAF. 1-1-OFL.2** PO-CS-001, PO-CS-002, and/or PO-CS-004 should be revised to require policies and procedures to be issued with a statement that identifies the effective date and which policies or procedures are being replaced, superceded, or canceled by them. Also, the on-line list of BNFL procedures should be updated to delete safety procedures that have been superceded or canceled.
- SME-SAF.1-3-OFL.3** The BNFL procedure on the EWP process, PR-RO-005, should be modified to address certain omissions, including lack of discussion of term length (review cycle) for EWPs, lack of required concurrence with the procedure by safety subject matter experts, lack of designation of hoisting and rigging or fall protection on Attachment 1, Phase 4 (Industrial Safety), lack of full identification of hazard controls for manual lifting and ergonomics, lack of definitive requirements to provide EWP training for new or transferred employees coming into an ongoing job, and lack of a requirement for the training in each EWP to be documented for the affected employees in the BNFL training database.
- SME-SAF.1-3-OFL.4** PO-CS-003, *Readiness Assessments/Certifications*, Appendix 2, “Readiness Assessment Certification Checklist,” should make specific references for the need to have a currently implemented maintenance program for the equipment to be used and facilities to be restarted and for the need to have current job hazard analyses for the work.
- SME-SAF.1-5-OFL.5** PR-SS-068, *Health and Safety Plan*, Section 6, and PO-CS-500, Attachment 8.1, “Training Needs Assessment Checklist,” should be revised to include the requirement to train employees on specific EWPs.

- SME-T&Q.1-3-OFL.1** The process and requirements for identification of the need for and conduct and tracking of on-the-job training should be addressed in the training program documentation (i.e., PO-CS-500, *Training Plan*).
- SME-T&Q.1-3-OFL.2** A process for capturing and tracking training requirements identified through the EWP process should be addressed in the training program documentation.
- SME-T&Q.1-3-OFL.3** The process for capturing and tracking training requirements for new or revised policies, procedures, etc., (outside of the required reading process) needs to be clearly defined to assure that personnel receive required formal training on same before performing work.

### **6.5 Variations from the Verification Plan**

BNFL is revising its procedure system. Prior to coming on-site, it was believed that the team would be able to review draft procedures. However, at BNFL's request, the document review was limited to published documents.

This verification was originally intended to be a combined Phase I/II ISMS verification. Phase I activities were successfully completed on June 30. Phase II activities began on July 10 and were suspended on July 12 when it was deemed by the Team Leader and the COR that BNFL was not ready for a Phase II verification.

## **7.0 RECOMMENDATIONS**

The verification team for the Phase I ISMS verification for BNFL makes the following recommendations:

1. The DOE-ORO Manager should approve the BNFL ISMS description that was submitted as BNFL procedure PO-SS-0017, Revision 0, dated May 24, 2000.
2. The AMAU and BNFL should be directed to resolve the OFIs identified in this Phase I ISMS Verification Final Report and the areas of concern regarding implementation of the ISMS by BNFL that were provided separately to the AMAU by letter from the ISMS Verification Team Leader, dated July 14, 2000.
3. The AMAU should verify that the improvements identified in Recommendation 2 above have been made in BNFL's documentation and performance prior to requesting the restart of Phase II of this ISMS verification.

## **8.0 LESSONS LEARNED**

Following are statements taken from the lessons learned input from the verification team:

- Criteria for team member selection should be based on capabilities/competence rather than who was available.
- Keep the current Coordinator. Her skills are outstanding, and she is a pleasure to work with.
- Continue to distribute as much information as possible to the team prior to arriving on site for the verification.
- The team needs to meet as a whole more often during the verification.
- Better communication between the subteams to discuss issues would be helpful.

- DOE-ORO should also practice what it preaches (i.e., use of subject matter experts).
- Develop and implement a better training program for the Team Leader, the subteam leaders, and the team members.
- The CRADs, as written, are not very good.
- This was the best “coordinated” verification team that I have participated on, particularly for a team of this size.
- Receipt of the BNFL ISMS program checklist earlier in the process would have been helpful.
- Add Phase I CRADs for the OP subteam for configuration management and work control.
- Planning and coordination went well on this verification.
- The Verification Plan was good but could be improved.
- Having access to BNFL’s policies and procedures on-line was helpful.
- The scope for portions of the verification should be clarified (i.e., 30,000 feet or down into the minor details?).
- The computer and printer problems were a hassle.
- Take better advantage of electronic mail for sharing information.

## **APPENDIX A: VERIFICATION TEAM ROSTER**

**BNFL Integrated Safety Management Verification  
Team Roster**

<b>Verification Title</b>	<b>Name</b>	<b>Organization</b>
<b>Team Leader</b>	Robert Dempsey	DOE-ORO, Deputy Assistant Manager, Environment, Safety, Health and Emergency Management
<b>Senior Advisor</b>	Harold Monroe	DOE-ORO, Director, Technical Support Division
<b>Coordinator</b>	Karen Brown	Informatics Corporation
<b>Coordinator</b>	Patty Humphrey	DOE-ORO, Technical Support Division
<b>Hazard Identification and Standard Selection</b>		
1. Subteam Leader	Brenda Hawks	DOE-ORO, Nuclear Safety Division
2. Member	Larry Radcliffe	DOE-ORO, Technical Support Division
3. Member	Catherine Schidel	DOE-ORO, Facility Representative
<b>Management and Business</b>		
1. Subteam Leader	Judith Stroud	DOE-ORO, Partnerships and Program Development
2. Member	Walker Love	DOE-ORO, Procurement and Contracts
3. Member	Mike Smith	DOE-ORO, Technical Support Division
4. Member	Jacqueline Hinton	DOE-ORO, Planning and Budget Division
<b>Operations</b>		
1. Subteam Leader	Jeff Cravens	DOE-ORO, Director, Assessment & Emergency Management Division
2. Member	Jim Campbell	DOE-ORO, Technical Support Division
3. Member	David Queen	DOE-ORO, Technical Services Division
<b>Subject Matter Experts</b>		
1. Subteam Leader	Bobby J. Davis	DOE-ORO, Assessment & Emergency Management Division
2. Member – Environmental Protection	Jim Elmore	DOE-ORO, Technical Support Division
3. Member – Fire Protection	Jim Landmesser	DOE-ORO, Technical Support Division
4. Member – Industrial Hygiene and Occupational Health	Alan Trivette	DOE-ORO, Technical Support Division

5. Member – Radiation Protection	Dana Willaford	DOE-ORO, Technical Support Division
6. Member – Training and Qualification	Tyrone Harris	DOE-ORO, Nuclear Safety Division

## **APPENDIX B: VERIFICATION ASSESSMENT FORMS**

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Hazards Identification and Standard Selection (HAZ)	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>HAZ.1</b> <b>June 30, 2000</b>
--	-----------------------------------	--------------------------------------

### OBJECTIVE

Hazards associated with the work are identified, analyzed, and categorized. (CE-I-3, CE-I-9)

### Criteria and Discussion of Results

**HAZ.1-1** BNFL's and DOE-ORO's procedures require comprehensive identification, analysis, and categorization of hazards associated with the site. BNFL's ISMS procedures for analysis of hazards reflect accepted rigor and methodology. The resulting hazards are utilized in selection of standards included in the contract as List A/List B (i.e., WSS set, Standards/Requirements Identification Document [S/RID], etc.).

**Discussion of Results** – BNFL's procedures provide a process for identification, analysis, and categorization of hazards associated with the site. For BNFL's operations, the site is defined as Buildings K-33, K-31, K-29 (i.e., low enriched uranium facilities), and the associated activities. PO-SS-017, *Integrated Safety Management Program Description*, states that the site was screened to determine the facility hazard category. The results of the screening are specified in PO-CS-007, *Basis for Interim Operation of the Low Enriched Uranium (LEU) Process Buildings at the ETTP (BIO)*, for BNFL's operations at the ETTP. In addition to the BIO, the authorization basis consists of the TSR, USQDs, and SERs.

The BIO categorizes the site based on the identification of the hazards in accordance with DOE-STD-1027-92 (1027). Although each of the facilities is within the inventory limits for a Category 3 facility, they are classified as Category 2 due to the criticality potential per 1027. According to PR-CS-005, *Safety Evaluation/Unreviewed Safety Question Determinations*, the BIO addresses approved USQDs (both negative and positive) in the annual update.

The TSR for the Radiation/Criticality Accident Alarm System (R/CAAS) is addressed in the Statement of Work with Westinghouse Safety Management Solutions Mid America, LLC, to provide an R/CAAS Engineer and surveillance and maintenance support. PO-CS-010, *Technical Safety Requirements for the ETTP R/CAAS*, is under Bechtel Jacobs Corporation LLC's configuration control, which governs the Limiting Conditions of Operation (LCO) and subsequent action statements. It appears that the Statement of Work is broad enough to ensure that routine surveillance and maintenance is covered, as well as any quick response that would be required to comply with an action statement activated to address an LCO.

USQDs are completed and evaluated in accordance with PR-CS-005 if a situation is identified that could impact the facility authorization basis. According to the procedure,



# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>HAZ.1</b> <b>June 30, 2000</b>
--	-----------------------------------	--------------------------------------

all USQDs (which are also called a Safety Evaluation in the procedure) are prepared by or reviewed by the Regulatory Compliance Specialist. Although the procedure does not specify review of all approved USQDs that have been generated since the last BIO update and the current BIO itself when making a USQD, discussions with Regulatory Compliance personnel determined that this is occurring. Two additional comments are provided on this procedure:

- (1) Sections 3.7 and 4.7 require DOE to be notified of the potential inadequacy and the placement of the facility into a safe condition by the responsible manager, but the procedure does not require DOE be notified of the safe condition.
- (2) The Process Flow Diagram is incomplete.

DOE Orders and Technical Standards specify how facilities across the DOE complex are categorized. DOE-ORO approves or rejects a contractor's BIO (or any other authorization basis document) based on these Orders and Technical Standards.

*The criterion was met*

HAZ.1-2

**BNFL's procedures require comprehensive identification, analysis, and categorization of hazards associated with facilities or activities. Hazards that are considered include nuclear, chemical, industrial or others applicable to the work. BNFL's procedures for analysis of hazards reflect accepted rigor and methodology.**

**Discussion of Results** – BNFL has procedures in place requiring comprehensive identification, analysis, and categorization of facilities and/or activities. Major emphasis for this process is placed on the process described in PR-RO-005, *Enhanced Work Planning*, Revision 2. The EWP procedure is fairly comprehensive. However, there are three primary areas of concern:

- (1) Section 4.0, "Process," Step 4, states that Attachment 3 is provided to assist, which leads the reader to believe that its use is optional. However, the BNFL *Integrated Safety Management Program Description*, Section 4.4.2.2, "Analyze Hazards," states that the EWP "team identifies all types of hazards and performs a task hazard assessment using Attachment 3 of Procedure PR-RO-005." This statement indicates that use of the attachment is not optional. Attachment 3 is not written to allow for broad brainstorming on hazards by the EWP team members, which potentially hampers the identification of hazards specific to the activity. Also, under the column labeled "Standard Hazard Control," the EWP team is given a list of documents (which include Federal regulations, management instructions, procedures, etc.) rather than the identification of

HAZ.1-2

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.1</b> <b>DATE:</b> <b>June 30, 2000</b>
--	---

actual hazard controls. By listing the names of the documents instead of the hazard controls, it requires the team to pull each document that has been identified and review it prior to completion of the form.

- (2) Section 4.0, Step 5, states that approval of "non-intent" changes to the EWP Task Plan is the sole responsibility of the Group Manager. This would be reasonable except that the definition of non-intent change in the procedure includes anything other than safety significant systems. Therefore, a change that could impact the health and safety of the workers and the public or impact the environment could occur without appropriate hazard analysis and determination of controls unless it is part of a safety significant system. In order to fully meet the intent of ISM, when any changes in an activity are identified, a requirement would exist to reevaluate the activity for any changes in the hazards. Based upon that evaluation, BNFL would determine if additional controls are needed. The extent of the reevaluation should be concurrent with the extent of the change. Simply stating that any change to an activity, unless it involves a safety significant system, does not require worker and/or appropriate subject matter expert involvement fails to meet the intent of ISM.
- (3) Attachment 1 of the EWP Task Plan, Phase 2, "Subject Matter Expert Needs Assessment," is limited in its screening process, although "other" is included for each section. Of particular concern is the authorization basis compliance section, which is not adequate to be inclusive of all potential issues/violations. The Group Manager who completes the form could screen out the need for subject matter expert review based on the criteria identified. The Group Manager is not intimately familiar with the BIO or with all approved USQDs that have been completed since the last BIO update.

***This criterion was not met. See the MG.3 form, MG.3-3-OFI.1.***

### **Record Review**

- DOE 5480.21, UNREVIEWED SAFETY QUESTIONS, December 24, 1991
- MI-IS-010, *Hazard Assessment*, Revision 6, August 20, 1999
- PO-CS-005, *Safety Evaluation/Unreviewed Safety Question Determinations*, Revision 0, February 15, 2000
- PR-CS-005, *Safety Evaluation/Unreviewed Safety Question Determinations*, Revision 0, February 15, 2000
- PO-SS-007, *Operational Controls*, Revision 0, March 22, 2000
- PR-CS-004, *Preparing, Revising, and Using Categorization Sheets*, Revision 0, March 13, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 1, May 2, 2000
- PR-RO-501, *Radiation/Criticality Accident Alarm System Requirements*, Revision 0, April 24, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>HAZ.1</b> <b>June 30, 2000</b>
--	-----------------------------------	--------------------------------------

- PO-CS-007, *Basis for Interim Operation of the Low-Enriched Uranium (LEU) Process Buildings at the ETPP*, June 14, 2000
- PO-CS-006, *Work Smart Standards*, February 16, 2000
- PO-CS-004, *East Tennessee Technology Park Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*, April 5, 2000
- MIG-IS-001, *Health and Safety Plan*, June 16, 1999
- II-RC-016, *Nuclear Criticality Safety Approvals/Evaluations*, Revision 2, December 8, 1999
- PO-CS-010, *Technical Safety Requirements for the Radiation/Criticality Accident Alarm System*, Revision 1, March 16, 2000
- Statement Of Work 99-2870, *Radiation/Criticality Accident Alarm System (RCAAS) Engineering, Surveillance and Maintenance*, Revision 3, February 28, 2000

### Interviews

- DOE-ORO COR for BNFL
- DOE-ORO Facility Representative
- DOE-ORO Support Subcontractor to the COR (2)
- BNFL Regulatory Compliance Manager
- BNFL Regulatory Compliance Specialist

### Conclusion

*The objective was met.*

### Opportunities for Improvement

**HAZ.1-2-OFI.1** Attachment 1 of the EWP Task Plan, Phase 2, "Subject Matter Expert Needs Assessment," does not adequately address all potential issues/violations in the authorization basis compliance section. The potential exists for screening out an area due to lack of global expertise by the person completing the screening. The EWP needs assessment is not adequate to ensure that the activities are compatible with the existing BIO, TSR, and all approved USQDs generated since the last BIO update.

### Noteworthy Practices

None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Hazards Identification and Standard Selection (HAZ)	<b>OBJECTIVE:</b> HAZ.1 <b>DATE:</b> June 30, 2000
--	---

Team Member: <u>Catherine Schidel</u> Catherine Schidel	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Team Member: <u>Larry Radcliffe</u> Larry Radcliffe	Date: <u>7/14/00</u>
Subteam Leader: <u>Brenda L. Hawks</u> Brenda Hawks	

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

### OBJECTIVE

Applicable standards and requirements that mitigate the identified nuclear, chemical, industrial, and other hazards present are identified, maintained, and agreed upon. (CE-I-4, CE-I-9)

### Criteria and Discussion of Results

#### HAZ.2-1

BNFL's procedures utilize acceptable methodologies to identify adequate hazard control standards at both the site/corporate level and at the facility level to protect the public, worker, and environment.

**Discussion of Results** – BNFL's policies and procedures indicate that the initial, baseline set of standards was established from DOE-ORO and BNFL project team regulatory evaluation processes (i.e., PO-CS-006, *Work Smart Standards*). As part of BNFL's routine EWP process, all new activities are subjected to detailed hazard assessment and evaluations. Procedures indicate that necessary engineering and administrative controls are defined as part of BNFL's EWP process. Before subcontracted work is performed, the associated hazards are evaluated and an agreed-upon set of ES&H standards and requirements are established which, if properly implemented, provide adequate assurance that employees, the public, and the environment are protected from adverse consequences. (reference: clauses from subcontracts No. 5284-SC98-1755 and No. 5284-SC98-0926.) BNFL's procedures also indicate that the hazards of operations are controlled by a Safety Management Program and an associated set of instructions (i.e., PO-CS-007, *Basis for Interim Operations of the Low-Enriched Uranium (LEU) Process Buildings at the ETTP*).

BNFL's procedures/policies for the important safety function of lockout/ tagout are deficient. For non-electrical lockout/tagout, BNFL has no approved policy or procedure. PR-SS-068, *Health and Safety Plan*, dated June 6, 2000, provides three sentences of lockout/tagout guidance under section 14.4, "Isolation and Lockout/Tagout Safeguards." Meanwhile, implementing instruction II-SS-008, *Lockout/Tagout*, was canceled with no corresponding procedure in place. Consequently, for all non-electrical lockout/tagout, there is no approved policy or procedure. Even for electrical lockout/tagout, the approved procedure, PR-RO-200, is the same as PO-RO-200, the lockout/tagout policy. Lockout/tagout is an important safety function and there must not be any confusion/ deficiencies in the field as to what are the current, approved policies/procedures.

Entries in the WSS policy imply that it is left to DOE-ORO to modify the WSS set or that BNFL will first evaluate cost/performance impacts before proposing changes to the current WSS set. These entries do not reinforce the concept that BNFL will be proactive in identifying and implementing applicable standards that would protect the public, its workers, and the environment.

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>HAZ.2</b> <b>July 13, 2000</b>
--	-----------------------------------	--------------------------------------

The Support Services Functional Organization policy was reviewed to determine the corporate-level role in satisfying the review criterion. A figure is provided in the policy that indicates the position of "BNFL Inc., ES&H/QA Manager." However, other than a few entries in the figure, there is no narrative information in the policy to indicate the role of this position in establishing BNFL's procedures. An excerpt from the corporate-level BNFL *ES&H Manual*, Revision 0, dated June 22, 2000, was provided for review. This procedure states that "nothing is more important than the protection of the environment and the safety and health of our employees, our contractors, and the public." No "methodology" to identify adequate hazard control standards is included; however, the excerpt from the corporate-level document is acceptable to demonstrate satisfactory corporate emphasis on ES&H. The corporate position's role in the Oak Ridge contract should be more fully addressed in the functional organization policy (i.e., PO-SS-100, *Support Service Functional Organization Policies*).

*The criterion was met.*

### HAZ.2-2

**BNFL's procedures ensure controls are tailored to the hazards associated with the work or operations to be authorized.**

**Discussion of Results** – BNFL's procedure indicates that the EWP team is responsible for developing hazard controls that include (1) identifying and applying applicable standards and (2) identifying and applying controls to prevent and mitigate hazards. The procedure states that EWP Meetings are used to assess job-specific requirements; perform the task hazards assessment; define bounding conditions; detail the personnel, equipment, and materials necessary to perform the work; and identify any other specific requirements for the job. Once the task is detailed, the checklist for Engineering and Technology, Fire Protection, Industrial Safety, Industrial Hygiene, and Radiation Safety is filled out to identify any additional controls necessary for the task. An assessment form (Attachment 3 of the procedure) is used to assist the EWP team in the hazard analysis and the determination of necessary controls. The procedure indicates that the form identifies hazard controls associated with standard hazards. The assessment form is to be used by the EWP team to determine if a hazard is applicable to the task and if the controls are adequate and appropriate. The form allows the controls to be modified based on appropriate input from subject matter experts and others. The DOE-ORO ISMS verification team's review of the assessment form clearly shows that hazard control standards, not standard controls, are listed on the assessment form of Attachment 3. There is a form in Attachment 1, "Phase 3-Work Plan Meeting," on page 3 that provides a table for recording the results of the hazard assessment. Nothing in the procedure defines the use of this form or the requirements for completion. (References: PR-RO-005, *Enhanced Work Planning*; EWP-CONV-011, Revision 0; EWP-COMP-006, Revision 0; and EWP-COMP-001, Revision 0.)

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>HAZ.2</b> <b>July 13, 2000</b>
--	-----------------------------------	--------------------------------------

In summary, the EWP procedure does not ensure that controls are tailored to the hazards associated with the work or operations to be authorized. The tools within the procedure could be used to yield acceptable controls; however, compliance with the procedure could be achieved without the proper controls being identified.

*The criterion was met.*

#### HAZ.2-3

**BNFL's procedures ensure the identified controls, standards, and requirements are agreed upon and approved prior to the commencement of the operations or work being authorized.**

**Discussion of Results** – Procedures indicate that necessary engineering and administrative controls are defined as part of BNFL's EWP process. During the task-specific EWP development sessions, hazards are identified and evaluated. The EWP Task Leader and task team evaluate the task and hazards to determine whether or not it is potentially beyond the bounds of the safety analysis described in the BIO and if a USQD is needed. Assuming a USQD is not required, the necessary engineering and administrative controls are defined. (Reference: PO-CS-007, *Basis for Interim Operations (BIO) of the Low-Enriched Uranium (LEU) Process Buildings at the ETPP*, Revision 0, dated February 24, 2000.)

The BNFL POD Meeting is held each work day to ensure that all scheduled work is coordinated and authorized. The policy indicates that safety will be discussed at each POD Meeting. The BNFL POD procedure is silent on how controls, standards, and requirements are approved prior to commencement of operations, and the procedure does not address how EWP Task Plans get approved prior to commencement of the operations. (Reference: PO-RO-002, *BNFL-ETPP Plan of the Day (POD)*.)

BNFL also performs evaluations (readiness certifications) to verify that a new activity can be started, or a shutdown activity restarted, safely and in compliance with requirements. The most rigorous level of review is called a Readiness Assessment. New or restarted program work requires DOE-ORO approval under the following situations:

- A change to the authorization basis,
- A shutdown required by external regulatory agencies, or
- A project-generated shutdown due to serious safety concerns.

A "Readiness Assessment Certification Checklist" includes criteria that address compliance with the standards in the WSS set that are applicable to the activity. Some entries from the Readiness Assessment Certification Checklist that pertain to this review criterion include the following:

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

- Include assessment criteria that address compliance to all standards in the WSS set that are applicable to the activity being addressed.
- Is there an implemented process to ensure that project plans, such as the *Health and Safety Plan*, are current and cover the work activity?
- Is there an implemented process for flowing down the requirements in the contract, the project plans, the BIO, and the WSS set to the activity?
- Is there an implemented process for developing/revising the facility safety documentation that describes the safety envelope of the facility including hazards and risks that bound the activity?
- Are there implemented processes for determining whether the activity is in compliance with the applicable standards from the WSS set, the contract, the plans, and the BIO, for identifying noncompliances, and for developing schedules for gaining compliance with both justification and formal approval? (Reference: PO-CS-003, *Readiness Assessment/Certification*.)

The following excerpt from BNFL PO-CS-003, *Readiness Assessments/ Certifications*, presents an erroneous emphasis:

“The Regulatory Compliance Manager evaluates the need for performing a RA prior to start or restart of activities (e.g., key processes that affect the authorization basis). This includes evaluating the need for a readiness assessment when the new or restarted program work does not require DOE approval of changes to facility limits or requirements as stated in the Basis for Interim Operations (BIO) or other authorization basis documents.”

Independent from the circumstances when DOE approval is or is not required, the Regulatory Compliance Manager should evaluate the need for a Readiness Assessment when the risk is determined to be significant for personnel, the public, or the environment. The above policy section should emphasize this important point.

*The criterion was met.*

**HAZ.2-4**

**BNFL’s procedures utilize accepted and structured methods and processes to identify, select, gain approval for, periodically review, and maintain safety standards and requirements.**

**Discussion of Results – Identify and select safety standards and requirements:**

As part of BNFL’s routine EWP process, all new task activities associated with contractually authorized operations are subjected to a detailed hazards assessment and

HAZ.2-4



# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

appropriate compliance evaluations by various subject matter experts. (Reference: PO-CS-006, *Work Smart Standards*.) The purpose of the hazard analysis is to identify and assess potential hazards that may be encountered by personnel and to prescribe their required controls. BNFL's procedure indicates that the EWP team is responsible for developing hazard controls that include identifying and applying applicable standards to prevent and mitigate hazards. A centerpiece of the project's quality program and philosophy is ensuring that trained and proficient workers are involved in the entire quality process, from identifying the tasks and hazards involved in a process through developing EWPs and including identifying changed work conditions and associated hazards during the program. (Reference: PO-CS-004, *East Tennessee Technology Park Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*.)

### **Gain approval for safety standards and requirements:**

The Administration Manager is responsible for formally requesting WSS set changes from DOE-ORO.

### **Periodically review, and maintain safety standards and requirements:**

The Removal Operations Manager is responsible for ensuring the development, implementation, and maintenance of policies and procedures defining technical standards and administrative controls for the performance of work. The General Manager, with the assistance of Compliance Support Manager, is responsible for ensuring the development, implementation, and maintenance of policies and procedures that establish a methodology and frequency requirements for managers to assess their management processes and identify problems that hinder the organization from achieving its objectives. The Quality Assurance Manager is responsible for coordinating formal BNFL WSS set review processes and, to the extent possible, to coordinate BNFL's WSS set reviews with DOE-ORO's parallel processes when new operations initiatives for the project are authorized by DOE.

Excerpts from policies reviewed bring into question whether BNFL's first priority in identifying and implementing applicable standards and requirements is really protection of the public, workers, and the environment. The impression, as indicated in the excerpts below, is enhanced project execution; assessment of cost, schedule, and performance impacts of proposed standard changes; and the contractual need for DOE-ORO's unilateral direction of a change are of highest importance. BNFL needs to do a better job of conveying that its purpose in identifying standard and requirement changes is "safety-first."

"Operations managers and/or their direct reports are responsible for proposing changes to the WSS list **that might enhance execution** of the project and justifying suggested changes to the Administration Manager and/or the General Manager. They will also be **responsible for assessing the cost, schedule, or**

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

**technical performance impacts of WSS changes that are either proposed or preemptively directed by DOE.”** (Note: emphasis added)

“In the event a clearly applicable regulatory requirement is identified during EWP implementation . . . And it is determined that substantial cost, schedule, or technical performance issues must be addressed in order to comply with the previously unidentified regulatory requirement . . .”

“DOE will be obligated to exercise its unilateral authority under paragraph H-5 (b) of the contract to promptly notify BNFL of its intent to modify the WSS list to specify the latest set of applicable regulations. Within 30 days of receipt of the DOE contracting officer’s notice, BNFL must advise DOE in writing of the potential impact of the WSS change on the cost, project schedule, or technical performance criteria of the contract. Appropriate contract modifications can then be negotiated in accordance with paragraph I-81: 52.243-4 Changes.”

*The criterion was not met.*

**HAZ.2-5**

**DOE-ORO’s procedures specify an appropriate review and approval process for the hazard controls and safety standards and requirements.**

**Discussion of Results** – ORO Order 250, STANDARDS MANAGEMENT, is responsive to this criterion at the Operations Office level. However, there is no formal procedure in the AMAU’s organization to satisfy this review criterion. A review of recent correspondence from the COR indicates that a review and approval process is being formulated and followed. The contractor requests WSS set changes be concurred in by DOE-ORO. The COR, in turn, requires the proposed changes be reviewed by subject matter experts. The subject matter experts are requested to evaluate the proposed change, identify/resolve comments directly with BNFL, and provide a letter documenting the review and recommending approval/disapproval of the proposed change. The DOE-ORO Directives Management Group is included on all correspondence relative to WSS approval. This DOE-ORO process, although not formally documented, has been followed on each of the change requests indicated below.

- Jack L. Howard to James McAnally, letter dated March 14, 2000, subject: “Acceptance of the Proposed Work Smart Standards Changes for the Supercompactor Project”
- Jack L. Howard to Martin McBride, memorandum dated January 6, 2000, subject: “Review and Approval of Building Hazard Classification and Work Smart Standards for Installation of the Uranium Monitoring Facility in Building K-761 for Contract No. DE-AC05-97OR22576, East Tennessee Technology Park Three-Building Decontamination and Decommissioning and Recycle Project and ORO Order 250, Standards Management”

HAZ.2-6

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

*The criterion was not met.*

#### HAZ.2-6

**DOE-ORO's contracting procedures require that the requirements of applicable Federal, State, and local regulations (List A) and the requirements of DOE directives (List B) are appended to the contract (i.e., WSS set, S/RIDs, etc.).**

**Discussion of Results** – The contracting procedures for DOE-ORO are contained in ORO O 250. Chapter V, DEVELOPMENT, APPROVAL & MAINTENANCE OF WORK SMART STANDARDS, which indicates that identification of appropriate standards is an essential part of the Standards Management Program.

Applicable to the BNFL contract, Chapter V states that a WSS set contains the ES&H standards that are necessary and sufficient to provide an adequate level of protection to workers, the public, and the environment for the identified scope of work. WSS sets automatically include all applicable Federal, state, and local laws and regulations from which DOE is not exempt. In addition, the WSS set includes other standards (or portions thereof) selected to ensure that adequate ES&H protection is provided. These standards may be chosen from a variety of sources, including national consensus standards, DOE directives, and DOE Headquarters program direction documents. The baseline WSS set is appended to the BNFL contract as Appendix I of the Statement of Work. (Reference: Contract No. De-AC05-97OR22576, *East Tennessee Technology Park Three-Building Decontamination and Decommissioning and Recycle Project.*)

*This criterion was met.*

#### HAZ.2-7

**BNFL's and DOE-ORO's procedures define the processes for the development, approval, and maintenance of documentation addressing the establishment of authorization protocols and authorization agreements.**

**Discussion of Results** – ORO Order 420, AUTHORIZATION AGREEMENTS, assigns responsibility and accountability and provides administrative and contractual guidance to DOE-ORO and contractors on the development, approval, and maintenance of authorization agreements. An authorization agreement is required for the BNFL ETTP Three-Building Decontamination and Decommissioning and Recycle Project pursuant to Section H-4: *Integration of Environment, Safety and Health into Work Planning and Execution*, of DOE contract No. DE-AC0597OR22576. The authorization agreement currently in place for the project was negotiated in September 1999 and was signed by the BNFL General Manager and the DOE-ORO Manager on October 7, 1999. The authorization agreement delineates formal DOE determinations that place general restraints on the scope of BNFL's approved work activities. In addition to covering authorization agreement scope and policy, BNFL PO-CS-013, *DOE/BNFL Authorization Agreement*, indicates that the Regulatory Compliance Manager is responsible for

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

promoting awareness of the authorization agreement terms and conditions with all affected levels of management within BNFL and for maintaining an up-to-date version of the authorization agreement. In terms of authorization protocols, BNFL PO-CS-005, *Safety Evaluations/Unreviewed Safety Question Determinations*, defines the position responsibilities for performing and documenting safety evaluations to ensure that changes to the facilities or documentation do not represent USQs. BNFL PR-CS-004, *Preparing, Revising and Using Categorization Sheets*, defines the process for reviewing, approving, and revising procedures and policies.

There is no delegation of authority in place for the AMAU to approve safety basis documents (i.e., BIO, TSR, safety authorizations, USQs, and SERs) or startup/restart activities

*This criterion was met.*

### Record Review

- ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS, March 1, 2000
- ORO M 110, OAK RIDGE OPERATIONS ORGANIZATION MANUAL, Revision 3, December 30, 1999 through Change 1
- ORO O 420, AUTHORIZATION AGREEMENTS, April 4, 2000
- PO-CS-006, *Work Smart Standards*, Revision 0, February 24, 2000
- PO-CS-007, *Basis for Interim Operations (BIO) of the Low-Enriched Uranium (LEU) Process Buildings at the ETTP*, Revision 0, February 24, 2000
- PO-SS-100, *Support Services Functional Organization*, Revision 3, May 16, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 1, May 2, 2000
- PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, May 26, 2000
- PO-CS-003, *Readiness Assessments/Certifications*, Revision 0, January 14, 2000
- PO-CS-004, *ETTP Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*, Revision 3, March 23, 2000
- EWP-CONV-006 REV0, *Shell Sectioning*
- PR-RO-401, *Design Control Process*
- Clauses from Subcontracts No. 5284-SC98-1755 and No. 5284-SC98-0926
- EWP-CONV-011, Revision 0
- EWP-COMP-001, Revision 0
- MIG-IS-004, *Annual Health & Safety Evaluation*
- II-SS-008, *Lockout/Tagout*
- PR-RO-200, *Lockout/Tagout* (same as PO-RO-200)
- ORO O 250, STANDARDS MANAGEMENT, Revision 3, December 1999
- Contract No. De-AC05-97OR22576, *East Tennessee Technology Park Three-Building Decontamination and Decommissioning and Recycle Project*
- BNFL PO-CS-013, *DOE/BNFL Authorization Agreement*, February 24, 2000

**ISMS VERIFICATION ASSESSMENT FORM**  
**BNFL Inc.**  
**Phase I Assessment Form**

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.2</b> <b>DATE:</b> <b>July 13, 2000</b>
--	---

- BNFL PR-CS-004, *Preparing, Revising and Using Categorization Sheets*, March 13, 2000
- BNFL PO-CS-005, *Safety Evaluations/ Unreviewed Safety Question Determinations*, February 15, 2000
- Excerpt from the corporate-level BNFL *ES&H Manual*, Revision 0, June 22, 2000

**Interviews**

- DOE-ORO COR for BNFL
- BNFL Regulatory Compliance Manager
- BNFL Regulatory Compliance Specialist

**Conclusion**

*The objective was met.*

**Opportunities for Improvement**

- HAZ.2-1-OFL.1**           BNFL does not currently have an active procedure for non-electrical lockout/tagout.
- HAZ.2-2-OFL.2**           The EWP procedure, PO-RO-005, does not ensure that controls are tailored to the hazards associated with the work or operations to be authorized. The hazard assessment form in Attachment 3 provides a good list of standard hazards and the accepted standard to control each hazard. Attachment 1, Phase 3, "Work Plan Meeting" on page 3 provides a form for recording hazards and controls identified. However, the EWP procedure does not contain sufficient instructions for completing these forms to ensure that the controls are tailored to the hazards.
- HAZ.2-5-OFL.3**           An AMAU procedure is needed to formalize the review and approval process currently being followed for WSS set revisions.
- HAZ.2-7-OFL.4**           There is no delegation of authority for the AMAU to approve safety basis documents (i.e., BIO, TSR, safety authorizations, USQs, and SERs) or startup/restart activities.

**Noteworthy Practices**


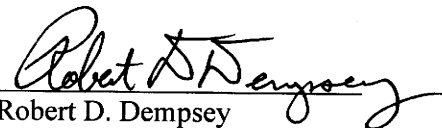
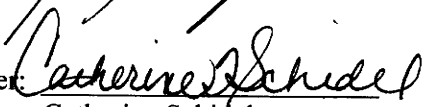
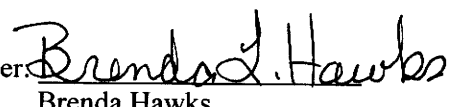
None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Hazards Identification and Standard Selection (HAZ)	<b>OBJECTIVE:</b> HAZ.2 <b>DATE:</b> July 13, 2000
--	---

Team Member:  Larry Radcliffe	Team Leader:  Robert D. Dempsey
Team Member:  Catherine Schidel	Date: <u>7/14/00</u>
Subteam Leader:  Brenda Hawks	

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.3</b> <b>DATE:</b> <b>June 30, 2000</b>
--	---

**Discussion of Results** – PO-SS-017, *Integrated Safety Management Program Description*, states in Section 4.2-3 that “personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.” It further states “the project’s policy PO-CS-004, *ETTP Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*, defines the process for training project personnel and requires managers and supervisors to assign activities only to personnel who are properly trained.” It goes on to state that “responsibilities, requirements, and minimum qualifications for selected project personnel are defined in the project’s functional organization policies.”

PO-CS-004, *ETTP Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*, does not provide adequate controls to ensure that the competence of personnel is commensurate with their responsibilities. It does state that personnel shall only be assigned tasks for which they are trained.

The minimum qualifications for selected project personnel are defined in the following BNFL policies:

- PO-GM-001, *BNFL ETTP Functional Organization*
- PO-CS-008, *Compliance Support Organization*
- PO-WM-600, *Waste Management Functional Organization*
- PO-RO-101, *Removal Operations Organizational Chart*
- PO-SS-100, *Support Services Functional Organization*

These documents are not adequate to ensure that the personnel responsible for analyzing hazards and identifying adequate controls have competence that is commensurate with their responsibilities. Numerous qualifications for BNFL Managers have no criteria for management skills or basic technical knowledge, skills, and abilities. The qualifications for the Group Managers, who are the responsible line personnel as stated above in criterion HAZ.3-1, have no criteria that provides basic competency in overall hazard analysis, safety basis, ES&H, and identification of adequate controls. The Compliance Support Manager, who is responsible for approval of USQDs, has no qualification requirements in the area of safety basis; hazard analysis; USQD process; or general knowledge, skills, and abilities for the various programs being managed.

The only qualification requirements for the Level III Regulatory Compliance Manager, who is responsible for maintenance/preparation of the BIO, TSR, and USQDs, are a minimum Bachelor of Science in chemical, environmental, or nuclear engineering and 15 years of ES&H regulatory experience. The Regulatory Compliance Specialist, who is the person responsible for analysis of conditions in relation to safety basis, authorization basis documents, facility conditions, and work plans does not have any qualification requirements in the area of hazard analysis; facility safety documentation; USQDs; and general knowledge, skills, and abilities required to execute assigned responsibilities.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>HAZ.3</b> <b>DATE:</b> <b>June 30, 2000</b>
--	---

Judgement as to actual competencies of individuals currently in the positions was not performed during Phase I.

*The criterion was not met. See the MG.2 form, MG.2-4-OFI.1.*

**HAZ.3-3**

**DOE-ORO's procedures have clearly defined roles and responsibilities for personnel assigned to oversee, review, and approve the analysis of hazards and controls associated with facilities and activities.**

**Discussion of Results** – The AMAU organization does not have any procedures that define the roles and responsibilities for personnel assigned to oversee, review, and approve the analysis of hazards and controls associated with facilities and activities. The COR, who is the Three Building D&D and Recycle Project Manager for the project, clearly understands his responsibilities in relation to the project and maintains that the responsibility lies with him to ensure that personnel who are assigned these functions are competent.

The DOE-ORO FRAM, provides an overarching description of the responsibilities for the DOE-ORO programs and functional elements in meeting DOE directives and ISM-related activities. ORO M 110, OAK RIDGE OPERATIONS ORGANIZATION MANUAL, Chapter 8, provides overarching description of responsibilities within the AMAU organization. However, a weakness exists in describing clear roles and responsibilities, including how ISM-related activities are performed within the AMAU program. The AMAU has recognized this deficiency for the BNFL contract; however, no documentation has yet been developed to correct the problem.

There is no requirement for the COR to be trained in the fundamentals of the authorization basis process (i.e., hazard identification, use of authorization bases in controlling work, and authorization basis change control). He is not required to be trained in the control and use of authorization agreements. The AMAU has line responsibility for both authorization basis and authorization agreements for his projects.

*The criterion was not met. See the MG.9 form, MG.9-2-OFI.1.*

**HAZ.3-4**

**DOE-ORO's procedures require that personnel responsible for approving hazards analyses and controls have competence commensurate with their responsibilities.**

**Discussion of Results** – DOE-ORO has in place a Technical Qualification Program required by DOE O 360.1, TRAINING. All persons stated by the COR as responsible for reviewing and approving safety analysis documents are required to be in the Technical Qualification Program.

HAZ.3-4



# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Hazards Identification and Standard Selection</b> <b>(HAZ)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>HAZ.3</b> <b>June 30, 2000</b>
--	-----------------------------------	--------------------------------------

*This criterion was met.*

### Record Review

- ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS, March 1, 2000
- ORO M 110, OAK RIDGE OPERATIONS ORGANIZATION MANUAL, Revision 3, December 30, 1999 through Change 1
- PR-RO-005, *Enhanced Work Planning*, Revision 1, June 6, 2000
- PO-GM-001, *BNFL ETTP Functional Organization*, May 8, 2000
- MI-IS-010, *Hazard Assessment*, August 20, 1999
- PO-RO-101, *Removal Operations Organizational Chart*, May 12, 2000
- PO-CS-004, *East Tennessee Technology Part Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*, April 6, 2000
- PO-CS-005, *Safety Evaluations/Unreviewed Safety Question Determinations*, February 15, 2000
- PO-CS-008, *Compliance Support Organization*, May 18, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, May 24, 2000
- PO-SS-100, *Support Services Functional Organization*, Revision 1, May 16, 2000
- PO-WM-600, *Waste Management Functional Organization*, March 27, 2000
- PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, May 26, 2000
- PR-CS-005, *Safety Evaluations/Unreviewed Safety Question Determinations*, February 23, 2000

### Interviews

- DOE-ORO Facility Representatives (2)
- DOE-ORO ETTP Three Building D&D Project Manager/COR
- BNFL ISM Implementation Manager
- BNFL Radiological Controls Manager
- BNFL Compliance Support Manager
- BNFL Regulatory Compliance Manager
- BNFL Regulatory Compliance Specialist

### Conclusion

*This objective was met.*

### Opportunities for Improvement

None.

### Noteworthy Practices

None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Hazards Identification and Standard Selection (HAZ)	<b>OBJECTIVE:</b> HAZ.3 <b>DATE:</b> June 30, 2000
--	---

Team Member: <u>Catherine Schidel</u> Catherine Schidel	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Team Member: <u>Larry Radcliffe</u> Larry Radcliffe	Date: <u>7/14/00</u>
Subteam Leader: <u>Brenda Hawks</u> Brenda Hawks	

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.1</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

### OBJECTIVE

The ISMS description is consistent and responsive to DOE Policies 450.4, 450.5 and 450.6; the DEAR; and guidance from the DOE-ORO Manager. BNFL's policies and procedures ensure that the ISMS is maintained, implemented, and that implementing mechanisms result in integrated safety management. (CE-I-1)

### Criteria and Discussion of Results

#### MG.1-1

The BNFL ISMS description is consistent with the DOE Policies 450.4, 450.5, and 450.6, the DEAR, and the guidance from the DOE-ORO Manager. The ISMS description identifies the methods for how BNFL will measure system effectiveness.

**Discussion of Results** – PO-SS-017, *Integrated Safety Management Program Description*, is consistent with DOE Policies 450.4, 450.6, the ISM DEAR clause (as modified for this fixed price contract), and the DOE-ORO internal guidance memorandum from the DOE-ORO Manager. While the BNFL ISMS is consistent with guidance from the DOE-ORO Manager, the verification team has not been able to determine that the guidance was formally transmitted to BNFL. DOE Policy 450.5 is not part of this fixed price contract, but many of the key elements of this policy have been incorporated into the BNFL ISMS description.

ISM components, guiding principles, and core functions are addressed throughout the ISMS program description. BNFL oversight includes various assessment activities and “is organized on the ISM Guiding Principle that line management is responsible and accountable for integrating safety into the performance of work.”

Since the BNFL contract is a fixed price contract, the ISM DEAR clause (970.5204-2) and the and “Laws” DEAR clause (970.5204-78) have been tailored as noted in clauses H-4 and H-5. As a result, there is no requirement to review and update ES&H performance metrics on an annual basis. However, a performance metrics package has been prepared. From this metrics package, BNFL generates metrics reports that are used to monitor against performance objectives. BNFL uses trend data to track Recordable Injuries and the Lost Workday Case Rate as measured against an increased production ratio.

The ISMS program description identifies the methods for how BNFL will measure system effectiveness through the use of Management Assessments (PR-CS-009) and Independent Assessments (PR-CS-006). As part of Issues Management (PR-CS-002), issues from internal and external sources are prioritized, documented, and analyzed for cause, and corrective actions are identified and tracked to closure. A limited annual

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.1</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

health and safety evaluation is performed in accordance with MIG-IS-004, *Annual Health and Safety Evaluation*.

*The criterion was met.*

### MG.1-2

**BNFL has mechanisms in place to direct, monitor, and verify the integrated implementation of the ISMS as described in the ISMS description. Implementation and integration expectations and mechanisms are evident throughout corporate/site/project organizational functions.**

**Discussion of Results** – BNFL has mechanisms in place to direct, monitor, and verify the integrated implementation of the ISMS as described in the ISMS program description. Implementation and integration expectations and mechanisms are evident throughout corporate/site/project organizational functions. PO-SS-100, *Support Services Functional Organization*, establishes the responsibilities for implementation of the ISM program. PR-SS-068, *Health and Safety Plan*, assigns responsibility for safety to line managers. PR-RO-005, *Enhanced Work Planning*, provides additional direction for and monitoring of the ISM program. PO-CS-006, *Work Smart Standards*, also provides direction for implementation and integration of the ISM program.

BNFL's Safety Committee Meetings are well run and very effective. A significant amount of time is spent on a wide range of safety and safety-related issues. Although the makeup of the committee is 50/50 management/workers, there is a free flow of information without reluctance on the part of anyone involved. Issues brought to the committee are added to an issues database, assigned to a responsible individual, estimated completion dates are established, and the issues are tracked to completion. Detailed minutes are kept and are widely posted at worker stations. While the Safety Committee and its meetings are commendable, currently no documentation (e.g., charter, procedures) exists. Formalizing this process would be prudent.

*The criterion was met.*

### MG.1-3

**BNFL has assigned responsibilities and established the mechanisms to insure that the ISMS description is maintained current.**

**Discussion of Results** – Responsibility for ISM program development, implementation, training development, and improvement activities is assigned to the ISM Implementation Manager in PO-SS-100, *Support Services Functional Organization*. BNFL has established a mechanism for reviewing the ISMS. PO-SS-017, *Integrated Safety Management Program Description*, indicates that BNFL conducts ongoing evaluations to identify program weaknesses and makes revisions as needed by using an established change control process.

MG.1-2

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.1</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

*The criterion was met.*

**MG.1-4**

**BNFL has mechanisms in place to interface with stakeholders and interested parties.**

**Discussion of Results** – Interface with stakeholders and interested parties is addressed in PO-PA-001, *Communications with the Public and the Media*, and is the responsibility of the Public Affairs Representative. BNFL uses Safety Committee Meetings, the Safety Incentive Program, and newsletters, among others, as mechanisms to interface with workers.

*The criterion was met.*

### Record Review

- DOE Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, October 15, 1996
- DOE Policy 450.5, LINE ENVIRONMENT, SAFETY, AND HEALTH OVERSIGHT, June 26, 1997
- DOE Policy 450.6, SECRETARIAL POLICY STATEMENT ON ENVIRONMENT, SAFETY, AND HEALTH, April 14, 1998
- DEAR Clause, 970.5204-2, *Integration of Environment, Safety, and Health into Work Planning and Execution*, June 27, 1997
- DEAR 970.5204-78, *Laws, Regulations, and DOE Directives*, June 27, 1997
- DOE Contract Number DE-AC05-97OR22576, *East Tennessee Technology Park Three-Building Decontamination and Decommissioning (D&D) and Recycle Project*, August 25, 1997, modified May 24, 2000 (Clauses H-4 and H-5)
- PO-CS-001, *Content and Format for Policies*, Revision 0, December 28, 1999
- PO-CS-002, *Content and Format for Procedures*, Revision 0, January 4, 2000
- PO-CS-006, *Work Smart Standards*, February 24, 2000
- PO-CS-015, *Configuration Management*, Revision 0, March 20, 2000
- PO-SS-017, *Integrated Safety Management System Program Description*, Revision 0, May 24, 2000
- MIG-IS-004, *Annual Health and Safety Evaluation*, November 20, 1997
- PO-SS-100, *Support Services Functional Organization*, Revision 3, May 16, 2000
- PR-CS-006, *Independent Assessments*, April 3, 2000
- PR-CS-009, *Management Assessments*, March 24, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 2, June 6, 2000
- PR-CS-002, *Issues Management*, Revision 0, February 25, 2000
- PR-SS-068, *Health and Safety Plan*, June 21, 2000
- PO-PA-001, *Communication with the Media and the Public*, Revision 0, March 2, 2000
- IIG-RC-010, *Project Safety Committee Charters*, August 18, 1999
- Report from the General Manager's Review of ISM, conducted during November and December 1999
- Report from the independent assessment and followup to the General Manager's review of ISM conducted in December 1999, conducted in May 2000.

MG.1-3

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.1 <b>DATE:</b> July 14, 2000
--	--

**Interviews**

- DOE-ORO COR for BNFL
- DOE-ORO Contracting Officer

**Observations**

Safety Committee Meetings, June 21 and 28, 2000

**Conclusion**

*The objective was met.*

**Opportunities for Improvement**

None.

**Noteworthy Practices**

None.

Team Member: <u>Mike C. Smith</u> Mike Smith	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Stroud</u> Judy Stroud	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

**Phase I Assessment Form**

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.2</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

## OBJECTIVE

**BNFL's roles and responsibilities are clearly defined to ensure satisfactory safety, accountability, and authority. Line management is responsible for safety. Project, facility, or activity line managers are competent, responsible, and accountable for safety. Competence is commensurate with responsibilities. (CE-I-7, CE-I-8)**

## Criteria and Discussion of Results

### **MG.2-1**

**BNFL's ISMS defines clear roles and responsibilities of all personnel to ensure that safety is maintained at all levels. ISMS procedures and implementing mechanisms specify that line management is responsible for safety.**

**Discussion of Results** – BNFL's ISMS clearly defines roles and responsibilities as spelled out in PO-SS-017, *Integrated Safety Management Program Description* (pages 10 and 14). PR-SS-068, *Health and Safety Plan*, Section 4.0, shows the lines of authority, responsibilities, and communication procedures regarding site safety and health and emergency response. PO-SS-017, Section 4.2.1, "Guiding Principles," states that "line management is directly responsible for the safe and efficient conduct of work to ensure the protection of the public, the workers, and the environment." Additional policies and procedures reviewed as listed under "Record Review" below provided further evidence that BNFL's ISMS procedures and implementing mechanisms are in place.

Throughout BNFL's inbriefing and various other presentations, safety was continually emphasized by upper and middle management. They also stated that these same safety policies and procedures are relayed down through the subcontractor level. According to BNFL's ISMS program description, page 11, "Subcontracts, involving complex or hazardous work, require implementation of ES&H requirements per a clause similar to Section H-4 [the ISM clause] of the BNFL contract. Subcontractors may implement the BNFL ISM program or have their ISMS description, Health and Safety Plan, and Hazard Communication Program reviewed and approved by BNFL safety professionals before the start of any project."

*This criterion was met.*

### **MG-2-2**

**BNFL's procedures identify line management as responsible for ensuring that the implementation of hazard controls is adequate to ensure that work is planned, approved, and conducted safely. Procedures require that line managers are responsible for the verification of adequate implementation of controls to mitigate hazards prior to authorizing work to commence.**

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.2</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

**Discussion of Results** – MI-IS-010, *Hazard Assessment*, states that line managers are responsible for ensuring that hazard controls remain in effect during work execution and that hazard control measures are implemented through the EWP process (PR-RO-005). The process is a five-step process where the Group Manager (i.e., line manager) selects the personnel to participate on the EWP team, convenes the EWP team to define the scope of work (including implementation of hazard controls), arranges for approval of the EWP, conducts pre-job briefings that confirm readiness at the task level and validate the EWP, and documents revisions to the EWP if deemed necessary. BNFL's POD policy, PO-RO-002, also supports this requirement. In addition to the above, the POD Meetings, as documented by a sampling of the POD Meeting minutes, demonstrate adherence to this criterion.

*This criterion was met.*

**MG-2-3**

**BNFL's procedures identify line management as responsible for ensuring that hazard controls remain in effect so long as the hazards are present.**

**Discussion of Results** – According to MI-IS-010, *Hazard Assessment*, BNFL's procedures reemphasize that line managers are responsible for ensuring that hazard controls remain in effect during work execution and that the process and adequacy of controls are continually assessed. The EWP procedure (PR-RO-005) also reinforces this criterion.

*This criterion was met.*

**MG-2-4**

**BNFL's procedures ensure that personnel who supervise work have competence commensurate with their responsibilities. Procedures assure that personnel performing work are competent to safely perform their work assignments.**

**Discussion of Results** – BNFL's Human Resources organization screens applicants according to HG-HR-001, *Staffing Process*, for the required minimum qualifications to start the search process. PR-SS-068, *Health and Safety Plan*, states that "Operations is directly responsible for ensuring that personnel possess the experience, knowledge, and skills to safely accomplish any task they perform . . ."

Sample documentation from two organizations were reviewed (i.e., PO-SS-100, *Support Services Functional Organization*, and PO-CS-008, *Compliance Support Organization*). Although the minimum requirements for each position are posted on the organization's functional chart, the Position Descriptions reviewed revealed a trend throughout the organizations that Position Descriptions do not fully describe the duties/responsibilities and are tailored to reflect the qualifications of the current incumbent rather than the necessary qualifications for the position. Some of the key qualifications required for certain positions are not reflected in the minimum qualifications required for the areas



# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.2</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

being supervised. For example, if Materials Control and Accountability was an area to be supervised, there was no requirement to have qualifications or experience in the Materials Control and Accountability area. It is noted that these skills and abilities can be further enhanced through training as indicated via PO-CS-500, *Training Plan*; however, the true minimum qualifications need to be addressed.

*This criterion was not met.*

### Record Review

- BNFL Position Descriptions for the Support Services Manager, Removal Operations Manager, Administration Manager, Converter/Compressor Group Manager, Health & Safety Manager, and the Area Supervisor for the D&D Workshop
- BNFL training records for Support Services Manager, Removal Operations Manager, Administration Manager, Converter/Compressor Group Manager, Health & Safety Manager, and the Area Supervisor for the D&D Workshop
- PO-SS-100, *Support Services Functional Organization*, Revision 3, May 16, 2000
- PO-CS-004, *ETTP Three-Building D&D and Recycle Project Quality Assurance Program Plan for 10 CFR 830.120*, Revision 3, April 6, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 2, June 6, 2000
- PO-CS-008, *Compliance Support Organization*, Revision 1, May 18, 2000
- PO-CS-500, *Training Plan*, Revision 3, June 1, 2000
- PO-SS-004, *Training/Qualification*, Revision 0, March 22, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- PR-SS-068, *Health and Safety Plan*, Revision 0, June 21, 2000
- HG-HR-001, *Staffing Process*, Revision 0, June 16, 1999
- MI-IS-010, *Hazard Assessment*, Revision 6, August 20, 1999
- PO-RO-002, *BNFL-ETTP Plan of the Day*, Revision 0, May 26, 2000

### Interviews

BNFL Administration Manager.

### Conclusion

*This objective was met.*

### Opportunities for Improvement

- MG-2.4-OFL.1** BNFL should revise its process for establishing Position Descriptions to reflect the true requirements and qualifications for the position rather than tailoring the Position Description to the individual currently occupying the position.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.2 <b>DATE:</b> July 14, 2000
--	--

Noteworthy Practices

None.

Team Member: <u>Jackie Hinton</u> Jackie Hinton	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Stroud</u> Judy Stroud	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.3 <b>DATE:</b> July 14, 2000
--	--

#### OBJECTIVE

DOE-ORO's and BNFL's processes ensure that contract requirements are translated into work, expectations are set, tasks are identified and prioritized, and resources are allocated. (CE-I-2)

#### Criteria and Discussion of Results

**MG.3-1** BNFL's processes translate contract requirements into tasks that permit identification of resource requirements, relative prioritization, and performance measures.

**Discussion of Results** – BNFL's mission requirements are set forth in the contract. Performance/payment milestones establish a schedule whereby BNFL receives payment for successful completion of specified milestones. Contract requirements are translated into scopes of work. The EWP process (PR-RO-005) is used to approve individual scopes of work. At the individual task level, work control processes are developed for each type of work activity performed. These processes ensure that for each task the scope of work is defined; the associated hazards are identified and analyzed; controls are identified, integrated, and implemented before the work is performed; and feedback mechanisms are used to evaluate work execution lessons learned from similar types of work. The POD Meeting (PR-RO-002) is used to authorize work and to ensure coordination between the various organizations that are involved.

The status review of contract milestones is accomplished through meetings with DOE-ORO, where the DOE-ORO team and the Senior Core Management Team review the status of contract deliverables and identify areas of concern and any corrective actions required to resolve them. This is documented in PO-SS-017, *Integrated Safety Management Program Description*.

*The criterion was met.*

**MG.3-2** BNFL's processes provide for DOE-ORO approval of proposed tasks and prioritization.

**Discussion of Results** – Since BNFL performs work under a fixed price contract, DOE-ORO approval is evidenced at the contract level rather than at the task level. BNFL's process is contained in II-MS-001, *Project Change Control*, and it defines the process for review and approval of changes in the contract baselines. The Senior Core Management Team reviews all proposed changes and forwards its recommendations to the General Manager for approval and subsequent discussion/negotiation with DOE-ORO. Any contract change requires DOE-ORO approval and authorization.

*The criterion was met.*

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.3</b> <b>July 14, 2000</b>
--	-----------------------------------	-------------------------------------

#### MG.3-3

**BNFL's processes provide for change control of approved tasks, prioritization, and identification of resources.**

**Discussion of Results** – Through its Project Change Control process (II-MS-001), BNFL controls and documents changes made to its performance measurement baseline, work scope, schedule, funding, and associated budget for the ETTP project. A Change Control Board has been established to review all Project Change Notices, change orders, claims, and issues or concerns related to the project's performance measurement baseline and to provide directions/instructions on each item.

The EWP process (PR-RO-005, Revision 2, dated June 1, 2000) is used to approve a scope of work or revisions thereto. Revisions to an EWP are either an "intent" change or a "non-intent" change. An intent change is defined as a change made to work documents for safety significant systems identified in the authorization basis documents. A non-intent change is defined as a change made to work documents or systems other than safety significant systems. In the current BNFL EWP process, a non-intent change only requires approval by the Group Manager; however, an intent change requires the same level of review and approval as the original EWP task plan. At BNFL, there are numerous systems/activities that are not considered safety significant systems. By making a change in scope to such an activity, there is increased potential for introducing significant ES&H issues, since procedures for a non-intent type of revision do not require the full review and approval of the EWP team, including cognizant subject matter experts.

*The criterion was not met.*

#### MG.3-4

**BNFL's processes provide for flowdown of DEAR 970.5204-2 requirements into subcontracts involving complex or hazardous work.**

**Discussion of Results** – The BNFL Administration Manager's responsibilities include the area of procurement and contracts. Among the assigned responsibilities is assurance that all subcontracts issued contain a clause substantially the same as the H.4 clause, *Integration of Environment, Safety and Health into Work Planning and Execution*, which is in BNFL's contract with DOE-ORO. Subcontractors may implement the BNFL ISM program or have their own ISMS, Health and Safety Plan, and Hazard Communication Program reviewed and approved by BNFL safety professionals prior to the start of any project (see PO-SS-017, *Integrated Safety Management Program Description*).

*The criterion was met.*

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.3</b> <b>July 14, 2000</b>
--	-----------------------------------	-------------------------------------

### Record Review

- BNFL contract with DOE-ORO and modifications thereto
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS, March 1, 2000
- ORO M 110, OAK RIDGE OPERATIONS ORGANIZATION MANUAL, Revision 3, December 30, 1999 through Change 1
- Portions of the subcontract for EET Tennessee Corporation
- Portions of the subcontract for J.A. Jones Construction Services
- Portions of the subcontract for Science Applications International Corporation
- Portions of the subcontract for Resource Technology, Inc.
- Portions of the subcontract for Westinghouse Safety Management Solutions
- BNFL Position Descriptions the Contracts & Procurement Manager, Government Contracts Liaison, Project Controls Manager, Support Services Manager, Removal Operations Manager, Administration Manager, Converter/Compressor Group Manager, Health & Safety Manager, and the Area Supervisor for the D&D Workshop
- BNFL training records for the Contracts & Procurement Manager, Government Contracts Liaison, Project Controls Manager, Support Services Manager, Removal Operations Manager, Administration Manager, Converter/Compressor Group Manager, Health & Safety Manager, and the Area Supervisor for the D&D Workshop
- MI-CS-001, *Contract Work Breakdown Structure CWBS Dictionary*, Revision 0
- MIG-CS-001, *Establishing the Project Technical, Cost, and Schedule Baseline*, Revision 0
- II-MS-001, *Project Change Control*, Revision 2, May 21, 1999
- MIG-CS-003, *Work Authorization Process*, Revision 0
- PO-CS-013, *Authorization Agreement*, Revision 0, February 24, 2000
- PO-CS-015, *Configuration Management*, Revision 0, March 20, 2000
- PO-CS-007, *Basis for Interim Operations (BIO)*, Revision 0, February 24, 2000
- PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, May 26, 2000
- PR-AD-002, *Procurement of Goods and Services*, Revision 0, March 23, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 2, June 6, 2000

### Interviews

- BNFL Administration Manager
- DOE-ORO COR for BNFL
- DOE-ORO Contracting Officer

### Conclusion

*The objective was met.*

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.3 <b>DATE:</b> July 14, 2000
--	--

Opportunities for Improvement

**MG.3-3-OFI.1** In PR-RO-005, *Enhanced Work Planning*, Revision 2, dated June 6, 2000, a non-intent change should be redefined to limit these types of changes to correction of administrative errors, typographical errors, and other errors that do not have potential to adversely impact safety.

Noteworthy Practices

None.

Team Member: <u>Walker Love</u> Walker Love	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Strodd</u> Judy Strodd	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.4</b> <b>July 14, 2000</b>
--	-----------------------------------	-------------------------------------

## OBJECTIVE

DOE-ORO's and BNFL's budgeting and resource assignment process ensures the application of balanced priorities. Resources are allocated to address safety, programmatic, and operational considerations. Protecting the public, workers, and environment is a priority whenever activities are planned and performed. (CE-I-2, CE-I-7)

## Criteria and Discussion of Results

*Note: The verification of this objective did not address the details of BNFL's budgeting process due to the nature of the fixed price contract. Project milestones and associated funding are formally contained in the contract. Obligations to the contract are based on the schedule of the contract milestones. Payments are made when milestones are completed. Any changes to the contract must be negotiated and agreements documented in a contract modification. Some modifications were the result of addressing safety issues (e.g., egress lighting). The verification of this objective did include the review of BNFL's Instructional Guide MIG-CS-001, Establishing the Project Technical, Cost, and Schedule Baseline.*

### MG.4-1

**The prioritization and allocation process clearly addresses both ES&H and programmatic needs ensuring balanced priorities. The process involves line management input and approval of the results.**

**Discussion of Results** – BNFL's prioritization and allocation process clearly addresses both E&SH and programmatic needs, ensuring balanced priorities as addressed in PO-SS-017, *Integrated Safety Management Program Description*, Section 4.2.4, "Guiding Principles, Balanced Priorities." In addition to the above policy, the BNFL process includes PR-RO-005, *Enhanced Work Planning*, for approving work and integrating ES&H requirements. The Group Manager (i.e., line manager) is the owner of the EWP document, is responsible for (a) defining the scope of work, (b) ensuring that appropriate subject matter experts are consulted, and (c) ensuring the hazard analysis is performed prior to the start of the task, and is directly involved in approval of the EWP. The EWP is one of the mechanisms that BNFL uses to ensure that ES&H functions and activities are integrated into the work process.

PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, ensures that work at BNFL is properly coordinated and authorized with attention to safety. This policy is applicable to all BNFL employees and subcontractor employees working on the project.

*This criterion was met.*

### MG.4-2

**BNFL's priorities include commitments and agreements to DOE-ORO.**

**Discussion of Results** – BNFL's priorities include commitments and agreements to DOE-ORO. These are contained in the milestones as spelled out in the fixed price

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.4</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

contract (DE-AC-05-97OR22576) and any changes processed during the baseline change proposals/change control board process. This is a formal process at both BNFL and DOE-ORO. Procedures are in place that ensure adequate documentation and control over work scope, schedule, funding, and associated budget changes. The appropriate approval levels for these changes are addressed in II-MS-001, *Project Change Control*, and the DOE-ORO procedure, *Department of Energy/Oak Ridge Operations Baseline Change Control Board Operating Procedures for the East Tennessee Technological Park Three-Building Decontamination & Decommissioning Recycle Project*.

BNFL's priorities also include commitments as required by DOE Policy 450.4 and DOE Policy 450.6. These commitments are reenforced by the BNFL management team by empowering individual employees with the ability to actively participate in the ISMS process. Workers are also granted stop work authority without fear of reprisal (PR-GM-001).

*This criterion was met.*

**MG.4-3**

**BNFL's procedures provide adequate resources to adequately analyze hazards associated with the work being planned.**

**Discussion of Results** – The BNFL ISMS program description discusses the evaluation of hazards as part of the ISMS. The EWP process is used as a structured approach to plan the work and identify hazards associated with the work being planned. MIG-CS-001, *Establishing the Project Technical, Cost, and Schedule Baseline*, describes the process for ensuring resources are available for all project activities. MI-IS-010, *Hazard Assessment*, also ensures that resources are made available to evaluate and identify hazards prior to work being initiated.

*This criterion was met.*

**MG.4-4**

**BNFL's procedures for allocating resources include provisions for implementation of hazard controls for tasks being funded.**

**Discussion of Results** – The BNFL ISMS program description notes the requirements for development and implementation of hazard controls. The BNFL EWP process also ensures that provisions for implementation of hazard controls are in place for tasks being performed. MIG-CS-001, *Establishing the Project Technical, Cost, and Schedule Baseline*, describes the process for ensuring resources are available for all project activities.

*This criterion was met.*



## ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.4</b> <b>July 14, 2000</b>
--	-----------------------------------	-------------------------------------

MG.4-5

Resource allocations reflect the tailored hazard controls.

**Discussion of Results** – BNFL procedures are in place that ensure resource allocations reflect the tailored hazard controls. The goal of the BNFL business process is to ensure that mission is translated into work tasks that are prioritized and resources are allocated to ensure that the work is accomplished in a safe environment. The BNFL EWP process (PR-RO-005) identifies resources and responsibilities for assuring that hazard controls are tailored to the work being performed. The EWP task plan, which is generated during the EWP process, accomplishes this task by detailing the personnel, equipment, and materials necessary to perform the work. MIG-CS-001, *Establishing the Project Technical, Cost, and Schedule Baseline*, describes the process for ensuring that resources are available for all project activities.

*This criterion was met.*

**Record Review**

- Department of Energy/Oak Ridge Operations Baseline Change Control Board Operating Procedures for the East Tennessee Technological Park Three-Building Decontamination & Decommissioning Recycle Project, Revision 1, April 21, 1999
- II-MS-001, *Project Change Control*, May 29, 1999
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- MI-CS-001, *Contract Work Breakdown Structure CWBS Dictionary*, Revision 0, June 16, 1999
- MIG-CS-001, *Establishing the Project Technical, Cost, and Schedule Baseline*, Revision 0, June 16, 1999
- PO-CS-015, *Configuration Management*, Revision 0, March 21, 2000
- PR-CS-004, *Preparing, Revising, and Using Categorization Sheets*, Revision 0, March 13, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 2, June 6, 2000
- PO-SS-100, *Support Services Functional Organization*, Revision 3, May 16, 2000
- PO-CS-012, *Project Document Hierarchy*, Revision 1, May 17, 2000
- PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, Revision 0, May 26, 2000
- DE-AC05-97OR22576, *East Tennessee Technology Park (ETTP) Three-Building Decontamination and Decommissioning and Recycle Project*
- MI-IS-010, *Hazard Assessment*, Revision 6, August 20, 1999
- MIG-IS-003, *Hazard Communication*, Revision 1, November 11, 1998
- II-IS-011, *Hazard Communication*, Revision 1, June 17, 1999
- DOE Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, October 15, 1996
- DOE Policy 450.6, SECRETARIAL POLICY STATEMENT ON ENVIRONMENT, SAFETY, & HEALTH, April 14, 1998
- PR-GM-001, *Stop Work Authority*, Revision 0, June 13, 2000

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.4 <b>DATE:</b> July 14, 2000
--	--

Interviews

- BNFL Administration Manager
- DOE-ORO BNFL COR
- DOE-ORO Contract Administrator for BNFL

Conclusion

*This objective was met.*

Opportunities for Improvement

None.

Noteworthy Practices

None.

Team Member: <u>Jackie Hinton</u> Jackie Hinton	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Stroud</u> Judy Stroud	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.5 <b>DATE:</b> July 14, 2000
--	--

### OBJECTIVE

Feedback information on the effectiveness of the ISMS is gathered through assessments and oversight. Opportunities for improvement are identified and implemented. Line self-assessments and independent oversight are conducted, and if necessary, regulatory enforcement actions occur. (CE-I-6, CE-I-7, CE-I-8)

### Criteria and Discussion of Results

**MG.5-1** BNFL's procedures define how oversight or assessment results are managed to ensure that lessons are learned and applied; that issues are identified and managed to resolution; and that fundamental causes are determined and effective corrective action plans are developed and implemented.

**Discussion of Results** – BNFL's procedures define how oversight or assessment results are managed to ensure that lessons are learned and applied. PR-RO-005, *Enhanced Work Planning*, describes how the lessons learned and near-miss databases are incorporated into work planning. PR-CS-011, *Lessons Learned*, contains processes for obtaining and applying external lessons learned and developing and sharing internal lessons learned. The procedure also describes how issues are identified and managed to resolution. PR-CS-009, *Management Assessments*, and PR-CS-002, *Issues Management*, also incorporate lessons learned. PR-CS-002, *Issues Management*, includes an issues management database that is used as a tool for tracking issues and corrective actions and for producing reports. PR-CS-009, *Management Assessments*, addresses how BNFL determines fundamental causes and develops and implements effective corrective action plans. In addition, the Safety Committee identifies, manages, and tracks issues to resolution.

*The criterion was met.*

**MG.5-2** BNFL's procedures require line and independent oversight or assessment activities at all levels. Oversight and assessment activities verify that work is performed within agreed-upon controls.

**Discussion of Results** – PR-CS-009, *Management Assessments*, and PR-CS-006, *Independent Assessments*, require line and independent oversight or assessment activities at all levels. Oversight and assessment activities, which are discussed in PR-RO-005, *Enhanced Work Planning*, verify that work is performed within agreed-upon controls.

*The criterion was met.*

**MG.5-3** BNFL's procedures require that performance measures or indicators and performance objectives are developed in coordination with DOE as required. BNFL's procedures describe effective management and use of performance

MG.5-1

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.5 <b>DATE:</b> July 14, 2000
--	--

measures and objectives to ascertain the status of the ISMS. BNFL's procedures describe clear roles and responsibilities to provide feedback and continuous improvement, including line management responsibility for safety.

**Discussion of Results** – The ISM DEAR clause (970.5204-2) has been tailored to this fixed price contract and does not require that BNFL and DOE-ORO develop annual ES&H performance objectives. PR-SS-068, *Health and Safety Plan*, requires that performance measures be developed. BNFL tracks its Lost Workday Case Rate, Total Recordable Injury Rate, and First Aid Case Rate. This data is trended and used to brief senior staff and inform the Safety Committee. It is also posted in the workplace. PR-RO-005, *Enhanced Work Planning*, describes clear roles and responsibilities to provide feedback and continuous improvement, including line management responsibility for safety.

*The criterion was met.*

MG.5-4

BNFL's procedures provide for regulatory compliance and enforcement as required by the Price-Anderson Amendments Act (PAAA) Rules, laws, and permits such as National Environmental Policy Act, Resource Conservation and Recovery Act, Comprehensive Environmental Resource Compensation Liability Act, etc.

**Discussion of Results** – PR-CS-003, *Price-Anderson Amendments Act Noncompliance Identification, Evaluation, and Reporting Process*, addresses PAAA compliance and enforcement. PO-CS-006, *Work Smart Standards*, includes regulations applicable to BNFL and assigns management responsibilities for those requirements. PR-RO-005, *Enhanced Work Planning*, addresses compliance with Rules, laws, and permits as an integrated part of scope definition and work planning.

*The criterion was met.*

MG.5-5

BNFL's processes adequately address the resolution, tracking, and verification of closure of safety issues identified by DOE oversight personnel. EH-2 findings are properly tracked in the DOE Corrective Action Tracking System (CATS).

**Discussion of Results** – BNFL has processes in place (PR-CS-022, *Issues Management*) to adequately address the resolution, tracking, and verification of closure of safety issues identified by DOE oversight personnel. DOE-ORO has issued ORO O 450, Chapter IV, ENVIRONMENT, SAFETY, AND HEALTH (ES&H) OVERSIGHT PROGRAM, that details the roles and responsibilities of ORO personnel to track EH-2 findings in CATS. The Order also contains a Contractor Requirements Document.

*The criterion was met.*

MG.5-2

**ISMS VERIFICATION ASSESSMENT FORM**  
**BNFL Inc.**  
**Phase I Assessment Form**

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.5</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

**Record Review**

- DEAR 970.5204-2, *Integration of Environment, Safety, and Health into Work Planning and Execution*, June 27, 1997
- DEAR 970.5204-78, *Laws, Regulations, and DOE Directives*, June 27, 1997
- DOE Contract Number DE-AC05-97OR22576, *East Tennessee Technology Park Three-Building Decontamination and Decommissioning (D&D) and Recycle Project*, August 25, 1997, Modified May 24, 2000 (Clause H-4)
- ORO M 411.1-1C, *MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS*, March 1, 2000
- ORO M 110, *OAK RIDGE OPERATIONS ORGANIZATION MANUAL*, Revision 3, December 30, 1999 through Change 1
- ORO O 450, Chapter IV, *ENVIRONMENT, SAFETY, AND HEALTH (ES&H) OVERSIGHT PROGRAM*, December 29, 1999
- PR-RO-005, *Enhanced Work Planning*, dated June 6, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- PO-CS-006, *Work Smart Standards*, Revision 0, February 24, 2000
- PR-CS-009, *Management Assessments*, Revision 0, March 23, 2000
- PR-CS-006, *Independent Assessment*, Revision 4, April 3, 2000
- PR-SS-067, *Near Miss/Hazard Identification and Safety Suggestion Program*, Revision 0, April 13, 2000
- PR-SS-068, *Health and Safety Plan*, June 21, 2000
- PR-CS-003, *Price-Anderson Amendments Act Noncompliance Identification, Evaluation, and Reporting Process*, Revision 0, March 6, 2000
- PO-CS-003, *Readiness Assessments/Certifications*, Revision 0, January 14, 2000
- PO-CS-004, *Quality Assurance Program Plan for 10 CFR 830.120*, April 6, 2000
- PR-CS-002, *Issues Management*, Revision 0, February 25, 2000
- PR-CS-011, *Lessons Learned*, June 27, 2000
- Report from the Issues Management Assessment, September 1999
- Report from the Independent Assessment, February 2000
- Report from the Quality Program Assessment, April 2000

**Interviews**

BNFL Quality Assurance Manager

**Conclusion**

*The objective was met.*

**Opportunities for Improvement**

None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.5 <b>DATE:</b> July 14, 2000
--	--

Noteworthy Practices

None.

Team Member: <u>Mike C. Smith</u> Mike Smith	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Stroud</u> Judy Stroud	Date: <u>7/14/00</u>

MG.5-4

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.6</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

### OBJECTIVE

The requirements from the DOE Implementation Plan for Recommendation 98-1 have been effectively included in DOE-ORO directives and implementing documents.

### Criteria and Discussion of Results

**MG.6-1**                      Appropriate DOE directives are issued and available in the directives system. The directives and implementing documents and guidance provide for a consistent and disciplined process, with clear assignment of responsibilities and authorities for developing, implementing, and approving Corrective Action Plans (CAPs).

Discussion of Results – DOE Policies 450.4, SAFETY MANAGEMENT SYSTEM POLICY, and 450.5, LINE ENVIRONMENT, SAFETY, AND HEALTH OVERSIGHT, have been added to the directives system. In addition, DOE-ORO has issued ORO Order 450, Chapter IV, ENVIRONMENT, SAFETY, AND HEALTH (ES&H) OVERSIGHT PROGRAM, that details the roles and responsibilities of DOE-ORO personnel relative to oversight, including a disciplined process with clear assignment of responsibilities and authorities for developing, implementing, and approving CAPs. The DOE-ORO FRAM has been updated to ensure that cognizant line managers implement corrective actions to evaluate, resolve, and close issues.

*The criterion was met.*

**MG.6-2**                      DOE-ORO's procedures and/or mechanisms provide for efficient integration and functioning of corrective action programs responding to safety issues identified by EH-2 or from other independent or self-assessment programs.

Discussion of Results – ORO has brought a local CATS on-line to facilitate resolution of EH-2 issues. ORO O 450, Chapter IV, ENVIRONMENT, SAFETY, AND HEALTH (ES&H) OVERSIGHT PROGRAM, is another mechanism that provides for efficient integration and functioning of corrective action programs responding to safety issues identified by EH-2 or from other independent or self-assessment programs.

*The criterion was met.*

**MG.6-3**                      DOE-ORO line managers have a process for verifying that contractors do what is necessary to meet the obligations of this program and implement identified corrective actions.

Discussion of Results – The COR has various processes for verifying that BNFL does what is necessary to meet the obligations of this program and implement identified corrective actions. These include the Facility Representative Program, management

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>MG.6</b> <b>DATE:</b> <b>July 14, 2000</b>
---	--

assessments, walkthroughs, subject matter expert reviews, and periodic and for-cause reviews.

Neither the AMAU nor the COR has any written procedures to specify how field verifications are conducted to ensure that corrective actions are implemented and issues closed.

*The criterion was met.*

### Record Review

- ORO O 450, Chapter IV, ENVIRONMENT, SAFETY, AND HEALTH (ES&H) OVERSIGHT PROGRAM December 29, 1999
- ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS, March 1, 2000
- *Defense Nuclear Facilities Safety Board Recommendation 98-1*, September 28, 1998
- PR-CS-002, *Issues Management*, Revision 0, February 25, 2000
- DOE Policy 450.4, SAFETY MANAGEMENT SYSTEM POLICY, October 15, 1996
- DOE Policy 450.5, LINE ENVIRONMENT, SAFETY, AND HEALTH OVERSIGHT, June 26, 1997
- ORO M 411.1-1C, MANUAL OF SAFETY MANAGEMENT FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES, LEVEL II, FOR OAK RIDGE OPERATIONS, March 1, 2000

### Interviews

- DOE-ORO Team Leader, Directives Management Group
- DOE-ORO Team Leader, Quality Management Team

### Conclusion

*The objective was met.*

### Opportunities for Improvement

- MG.6-3-OFL1**      The AMAU and/or the COR need to develop written procedures to specify how field verifications are conducted to ensure that corrective actions are implemented and issues closed.

### Noteworthy Practices

None.



ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.6 <b>DATE:</b> July 14, 2000
--	--

Team Member: <u>Mike P. Smith</u> Mike Smith	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Stroud</u> Judy Stroud	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I & II Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.9</b> <b>July 14, 2000</b>
--	-----------------------------------	-------------------------------------

### OBJECTIVE

DOE-ORO has established processes that interface efficiently and effectively with BNFL's organization to ensure that work is performed safely. (CE-I-7, CE-I-8, CE-I-9)

### Criteria and Discussion of Results

**MG.9-1**

**DOE-ORO line managers have responsibility for safety.**

**Discussion of Results** – The DOE-ORO FRAM, dated March 1, 2000, assigns line Assistant Managers (including the AMAU) responsibility for safety.

The Memorandum of Understanding signed between the AMAU and the AMEM clearly establishes that the AMAU has line management responsibility for ES&H for all facilities and activities associated with the BNFL contract.

The Position Description for COR addresses his responsibility for assuring that BNFL's activities are accomplished in a safe manner.

Through discussions, it was evident that the COR unequivocally understands that ultimate responsibility for safety belongs with the line organization. (Phase II)

*This criterion will be more fully assessed in Phase II.*

**MG.9-2**

**DOE-ORO has established clear roles and responsibilities to ensure that work is performed within the approved controls.**

**Discussion of Results** – The DOE FRAMs (Corporate and Field level) establish a continuous line of authority from the Secretary to the DOE interface with the contractor by defining DOE's roles and responsibilities for Headquarters and field element line management. The DOE Corporate-Level FRAM addresses the second guiding principle, "Clear Roles and Responsibilities," as follows:

- Clearly delineates management and safety responsibilities for approving the contractor's ISMS and other binding agreements that implement the ISMS;
- Clarifies the roles, responsibilities, lines of authority, and delegations between Headquarters and field organizations;
- Defines the functional relationships and responsibilities among DOE line, support, oversight, and enforcement organizations; and

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I & II Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.9 <b>DATE:</b> July 14, 2000
--	--

- Addresses the coordination of line management direction from multiple program offices at a single site.

Each line, support, oversight, and enforcement organization within DOE-ORO is responsible for establishing lower-tier implementing documents specifying how their functions and responsibilities, as assigned in the DOE-ORO FRAM, are to be properly discharged. This is only partially satisfied by a Memorandum of Understanding between the AMAU and the AMEM, which establishes clear roles and responsibilities associated with the EM Facility Representative Program, and the AMAU's *Department of Energy/Oak Ridge Operations Baseline Change Control Board Operating Procedures for the East Tennessee Technology Park Three-Building Decontamination & Decommissioning Recycle Project*, which is used for reviewing and processing changes to the contract baseline. Additional implementing documents specifying other roles and responsibilities related to the BNFL contract do not exist.

The Position Description for the COR has not been fully updated to properly reflect the interfaces and responsibilities associated with this position since its transfer from the Assistant Manager for Construction and Engineering to the AMAU.

*This criterion was not met.*

#### MG.9-3

**DOE-ORO's procedures ensure that personnel who review or oversee the performance of work have competence commensurate with the responsibilities to which they are assigned.**

**Discussion of Results** – Pursuant to the DOE-FRAM, DOE-ORO line organizations participate in the Technical Qualification Program developed by the Department. Guidelines that support the Technical Qualification Program are provided in ORO Order 360. The COR position for the BNFL contract is included in the Technical Qualification Program as noted in the Position Description. In order to facilitate the AMAU's mission, the AMAU entered into a Memorandum of Understanding with the AMEM whereby Facility Representatives are assigned to conduct oversight of the AMAU's contractors. The EM Facility Representatives are included in the Technical Qualification Program.

The COR is also aided in his oversight of BNFL by two individuals employed under a subcontract to the Parallax contract for technical support to AMEM programs. These two individuals assist the COR by providing construction oversight and performing surveillance of all contract activities performed by BNFL involving the dismantling and removal of material. They inspect BNFL's work for compliance with contractual and regulatory requirements, and they coordinate their efforts with those of the Facility

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I & II Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.9</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

Representatives. It is not possible to assess what qualifications are required to ensure competence commensurate with the responsibilities assigned to these two positions based on the documentation available during Phase I.

*This criterion will be further evaluated in Phase II.*

**MG.9-4**                      **DOE-ORO's procedures require line management approval for significant changes to work scope or hazard controls.**

**Discussion of Results** – The terms of the contract include a changes clause, which identifies the extent to which the Contracting Officer may unilaterally issue changes to the scope of work, specifications, and other provisions of the contract. The ISM clause states that ES&H requirements appropriate for the hazards identified for the work to be conducted under the contract have been determined by DOE and the contractor and are set forth in Part 1 of Appendix I of the Statement of Work. The clause also states that in the event of a new hazard being identified during contract performance, DOE and the contractor shall utilize the process set forth in DOE M 450.3-1, THE DEPARTMENT OF ENERGY CLOSURE PROCESS FOR NECESSARY AND SUFFICIENT SETS OF STANDARDS, to agree upon any necessary changes to the ES&H requirements. The AMAU's Department of Energy/Oak Ridge Operations Baseline Change Control Board Operating Procedures for the East Tennessee Technology Park Three-Building Decontamination & Decommissioning Recycle Project is utilized for reviewing and processing changes to the contract baseline.

**This criterion was met.**

**MG.9-5**                      **DOE-ORO line management has included environmental, safety and health performance objectives or expectations for Fiscal Year 2000 in the BNFL contract or other agreed upon document.**

**Discussion of Results** – The ISM clause (H4) of the BNFL contract is tailored to a fixed price contract and does not require annual ES&H performance objectives or expectations.

*This criterion does not apply.*

**MG.9-6**                      **The DOE-ORO AMAU has communicated ISM expectations to his staff and reviews safety performance with his staff and contractors on a regular basis.**

**Discussion of Results** – *To be covered in Phase II.*

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I & II Assessment Form

<b>FUNCTIONAL AREA</b> <b>Management and Business (MG)</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>MG.9</b> <b>July 14, 2000</b>
---	-----------------------------------	-------------------------------------

#### Record Review

- Position Descriptions for the two DOE-ORO Facility Representatives assigned to BNFL
- Position Description for the DOE-ORO COR for BNFL
- Task description for the two subcontracted individuals working for the DOE-ORO COR for BNFL (Principal Specialist and Senior Staff Advisor)
- Memorandum of Understanding between the AMEM and the AMAU, May 4, 1999
- *Department of Energy/Oak Ridge Operations Baseline Change Control Board Operating Procedures for the East Tennessee Technological Park Three-Building Decontamination & Decommissioning Recycle Project, Revision 1, dated April 21, 1999*

#### Interviews

##### Phase I:

- DOE-ORO COR for BNFL
- DOE-ORO Contracting Officer
- BNFL Administration Manager

##### Planned for Phase II:

- DOE-ORO AMAU
- DOE-ORO COR for BNFL
- Subcontractor to the DOE-ORO COR (2)
- BNFL Removal Operations Manager & Deputy Manager
- BNFL Health & Safety Manager
- BNFL Support Service Manager

#### Conclusion

*The objective will be more fully assessed in Phase II.*

#### Opportunities for Improvement

- MG.9-2-OFI.1**      The AMAU should prepare implementing documents to specify how the AMAU organization's roles and responsibilities as assigned by the DOE-ORO FRAM are to be accomplished.
- MG.9-2-OFI.2**      The Position Description for COR has not been fully updated to properly reflect the interfaces and responsibilities associated with this position's transfer from the Assistant Manager for Construction and Engineering to the AMAU. The Position Description needs to be revised to be consistent with current organizational structure.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I & II Assessment Form

<b>FUNCTIONAL AREA</b> Management and Business (MG)	<b>OBJECTIVE:</b> MG.9 <b>DATE:</b> July 14, 2000
--	--

Noteworthy Practices

None.

Team Member: <u>Walker Love</u> Walker Love	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Judy Stroud</u> Judy Stroud	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Environmental Protection	<b>OBJECTIVE:</b> SME-ENV.1 <b>DATE:</b> June 29, 2000
--	---

### OBJECTIVE

BNFL's policies, procedures, and documents to protect the environment are established and are adequate for the work or process to be performed safely. (CE-I-5)

### Criteria and Discussion of Results

**SME-ENV.1-1** BNFL's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present.

**Discussion of Results** – The EWP process, as described in PR-RO-005, *Enhanced Work Planning*, Revision 2, is utilized to ensure that controls are in place before work begins. Responsibility for the process is placed on the Operations Managers who appoint a Group Manager to manage the activity. The Group Manager performs the following:

- defines the scope of work,
- involves subject matter experts,
- ensures adequate development of the EWP task plan,
- ensures feedback from lessons learned and near-miss databases,
- maintains the EWP task plan and makes it accessible for work in the field,
- holds POD Meetings for work coordination, and
- manages the change in work process.

A supervisor is appointed to ensure that the work in the field is performed according to the EWP task plan. An EWP team is formed to identify hazards and controls. This is a logical approach to work planning and control. The involvement of subject matter experts and the use of a "Standard Task Hazard/Controls Assessment" form ensures that requirements and needed controls are made known to line management before the project begins. The approval and change processes result in controls remaining in effect until the end of the project.

*The criterion was met.*

**SME-ENV.1-2** BNFL's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with an environmental protection program, including pollution prevention and waste minimization, are in place prior to commencing work and that the controls remain in effect as long as work is taking place.

**Discussion of Results** – The EWP process (discussed in SME-ENV.1-1 above) integrates environmental protection into the planning process with (a) the involvement of environmental subject matter experts and (b) the use of a Standard Task Hazard/Controls

SME-ENV.1-1

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Environmental Protection</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-ENV.1</b> <b>June 29, 2000</b>
---	-----------------------------------	--

Assessment form (Attachment 3 of PR-RO-005, Revision 2). The assessment form includes environmental protection topics, such as permits, waste handling and minimization, waste generation and disposal, waste packaging and storage, waste shipping, air emissions, wastewater discharge, impacts to environmentally sensitive areas and water drainage systems, Emergency Planning and Community Right to Know Act, pollution prevention, and off-site releases. In addition, BNFL has developed an adequate array of environmental policies and procedures to address environmental protection.

*The criterion was met.*

#### SME-ENV.1-3

**BNFL's procedures provide mechanisms or processes to ensure environmental compliance requirements will be met prior to conducting operations or performing work.**

**Discussion of Results** – The EWP process (discussed in SME-ENV.1-1 above) integrates environmental compliance requirements into the planning process with (a) the involvement of environmental subject matter experts and (b) the use of a Standard Task Hazard/Controls Assessment form (Attachment 3 of PR-RO-005, Revision 2). The assessment form includes environmental compliance topics, such as permits, waste handling and minimization, waste generation and disposal, waste packaging and storage, waste shipping, air emissions, wastewater discharge, impacts to environmentally sensitive areas and water drainage systems, Emergency Planning and Community Right to Know Act, pollution prevention, and off-site releases. In addition, BNFL has developed an adequate array of environmental policies and procedures to address environmental compliance requirements.

*The criterion was met.*

#### SME-ENV.1-4

**BNFL's mechanisms for the control of work specify that line management is responsible for protection of the environment.**

**Discussion of Results** – BNFL's policy document on ISM (PO-SS-017, *Integrated Safety Management Program Description*) clearly spells out that line management is responsible and accountable for ensuring that the environment is protected from potential impacts from BNFL's operations. The various policies and procedures further expand on specific responsibilities.

*The criterion was met.*



# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Environmental Protection	<b>OBJECTIVE:</b> SME-ENV.1 <b>DATE:</b> June 29, 2000
--	---

**SME-ENV.1-5** BNFL personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.

**Discussion of Results** – Necessary general qualifications for the various environmental jobs are contained in PO-CS-008, *Compliance Support Organization*, and PO-WM-600, *Waste Operations Functional Organization*. In addition, some specific procedures and EWP task plans stipulate additional qualifications/training in order to perform certain operations, analyses, etc.

*The criterion was met.*

### Record Review

- II-IS-010, *Asbestos Awareness, Avoidance, and Notification*, Revision 0, December 2, 1997
- IIG-MS-028, *Sampling Plan for the D&D Workshop*, Revision 0, August 26, 1999
- IIG-OA-005, *Evaluation of Materials for Release Under TSCA and RCRA*, Revision 1, March 2, 1999
- IIG-OA-006, *Waste Characterization and Certification*, Revision 0, April 11, 1998
- II-OA-001, *Container Labeling and Marking*, Revision 0, December 29, 1997
- II-OA-002, *Inspection of PCB, PCB/RCRA, and RCRA Hazardous Waste Storage Areas*, Revision 3, March 2, 1999
- II-OA-003, *Operation and Inspection of PCB Transformer Storage Areas*, Revision 2, March 2, 1999
- II-OA-004, *Hazardous Materials and Waste Packaging*, Revision 2, March 2, 1999
- II-OA-006, *Initial Response and Recordkeeping for PCB Spill Sites*, Revision 3, March 2, 1999
- II-OA-007, *Classifying and Packaging Hazardous Materials for Shipping*, Revision 1, March 2, 1999
- II-OA-008, *Marking, Labeling, and Preparing Hazardous Materials for Shipment*, Revision 0, March 2, 1999
- MIG-OA-006, *Project Waste Tracking Protocol*, Revision 0, December 29, 1997
- MIG-OA-008, *Operation and Inspection of PCB/RCRA and RCRA Hazardous Waste Storage Areas*, Revision 0, December 29, 1997
- MI-OA-001, *Design Criteria for PCB and PCB/RCRA Hazardous Waste Storage Areas*, Revision 0, December 29, 1997
- MI-OA-002, *Design Criteria for RCRA Hazardous Waste Staging and Storage Areas*, Revision 0, December 29, 1997
- MI-OA-004, *Classification of TSCA Wastes*, Revision 0, December 29, 1997
- MI-OA-005, *RCRA Hazardous Waste Classification*, Revision 0, December 29, 1997
- MI-OA-011, *ETTP 3-Building D&D Project Sampling and Analysis Quality Assurance Program Plan*, Revision 0, April 30, 1998
- MI-OA-012, *Land Disposal Restriction Requirements*, Revision 0, April 24, 1998
- MI-OA-015, *Reporting Requirements Under TSCA and the ORR/PCB/FFCA*, Revision 0, April 24, 1998
- MI-OA-016, *Annual RCRA Report/Commissioners Order Annual Reporting*, Revision 0, April 24, 1998
- MI-OA-017, *Unauthorized Use of PCBs*, Revision 0, April 24, 1998
- IIG-RC-013, *Providing Input to the Regulatory Compliance Tracking Database*, Revision 0, November 14, 1997
- IIG-RC-022, *Occurrence Report Review Checklist*, Revision 0, November 3, 1998

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Environmental Protection</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-ENV.1</b> <b>June 29, 2000</b>
---	-----------------------------------	--

- II-RC-004, *Three-Building Decontamination and Decommissioning Recycle Project Implementing Instruction: BNFL Inc. Emergency Notifications*, Revision 0, October 9, 1997
- II-RC-005, *Notifications to the State of Tennessee*, Revision 0, December 29, 1997
- MIG-RC-008, *CERCLA Removal Action Work Plan*, Revision 0, August 11, 1997
- MI-RC-004, *Three-Building D&D Project Waste Management Plan*, Revision 0, April 11, 1998
- PR-CS-007, *EPCRA Section 312 Hazardous Chemical Reporting*, Revision 0, April 5, 2000
- PR-CS-015, *Authorizations for One-Time Discharges of Accumulated Nonprocess Wastewater Sources*, Revision 0, June 22, 2000
- PR-GM-001, *Stop Work Authority*, Revision 0, June 8, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 1, June 1, 2000
- PR-SS-032, *Effluent Stack Radiological Monitoring for the D&D Workshop*, Revision 0, March 23, 2000
- PR-SS-039, *Use and Changeout of Prefilter and HEPA Ventilation Equipment and Associated Filters*, Revision 0, March 23, 2000
- PR-SS-041, *HF Scrubbing and Fume Capture*, Revision 0, March 23, 2000
- PR-WM-200, *Transportation Operations Procedure*, Revision 0, March 17, 2000
- PR-WM-201, *Radioactive Materials Shipment and Receipt*, Revision 0, April 4, 2000
- PR-WM-303, *Inspection of Waste Pile Units*, Revision 0, May 18, 2000
- PR-WM-306, *Inspection of PCB, PCB/RCRA, and RCRA Hazardous Waste Storage Areas*, Revision 0, May 26, 2000
- PR-WM-310, *Management of Containers at PCB, PCB/RCRA, and RCRA Hazardous Waste Generation Locations*, Revision 0, June 6, 2000
- PR-WM-312, *PCB Spill Initial Response and Recordkeeping for PCB Spill Sites*, Revision 0, May 30, 2000
- PO-CS-004, *Quality Assurance Program Plan for 10 CFR 830.120*, Revision 0, March 23, 2000
- PO-CS-006, *Work Smart Standards*, Revision 0, February 24, 2000
- PO-CS-008, *Compliance Support Organization*, Revision 1, May 18, 2000
- PO-CS-012, *Project Document Hierarchy*, Revision 1, May 17, 2000
- PO-CS-013, *Authorization Agreement*, Revision 0, February 24, 2000
- PO-CS-014, *NESHAPS Radiological Air Monitoring Program*, Revision 0, February 29, 2000
- PO-CS-108, *NEPA Compliance*, Revision 0, May 8, 2000
- PO-CS-019, *Use of the ETTP Sanitary Sewer System*, Revision 0, May 17, 2000
- PO-CS-020, *Waste Minimization/Pollution Prevention*, Revision 0, May 26, 2000
- PO-CS-021, *Application of CERCLA Offsite Rule*, Revision 0, May 17, 2000
- PO-GM-001, *BNFL ETTP Functional Organization*, Revision 1, May 1, 2000
- PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, Revision 0, May 26, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- PO-WM-001, *Material Release Characterization Program Plan*, Revision 0, January 27, 2000
- PO-WM-300, *Waste Acceptance Criteria*, Revision 0, April 3, 2000
- PO-WM-302, *Waste Segregation, Packaging, and Storage Criteria*, Revision 0, May 11, 2000
- PO-WM-303, *Operating Record for the Waste Pile Units*, Revision 0, May 16, 2000
- PO-WM-304, *Project Waste Tracking Policy*, Revision 0, May 16, 2000
- PO-WM-600, *Waste Operations Functional Organization*, Revision 0, March 17, 2000
- EWP-SC-PA-01, *Asbestos Abatement, Including Fiberglass and Lead*, January 5, 2000

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Environmental Protection</b>	<b>OBJECTIVE:</b> SME-ENV.1 <b>DATE:</b> June 29, 2000
---	---

- EWP-WM-001, *Moving, Cleaning, Lifting, and Surveying Materials for Unconditional Release*, Revision 1, March 3, 2000
- EWP-WM-002, *Moving, Dumping, and Shipping Unconditional Release Materials*, Revision 1, March 14, 2000
- EWP-WM-003, *Cleaning and Surveying Wet Transformers*, March 29, 2000
- EWP-WM-004, *Surveying, Moving, Crushing, and Loading Ductwork*, March 22, 2000
- EWP-WM-403, *Transformer "Pot Head" Handling Operations*, May 17, 2000
- EWP-WM-404, *Transformer Operations*, May 15, 2000
- EWP-WM-405, *General Carpentry Operations*, May 17, 2000
- EWP-WM-408, *Handling, Movement, and Loading of Radioactive Trash*, May 31, 2000
- NCR No. 2000-083, *D&D Workshop Stacks*, June 8, 2000
- DOE/OR/02-1579&D1, *Engineering Evaluation/Cost Analysis for Equipment Removal and Building Decontamination for Buildings K-29, K-31, and K-33, East Tennessee Technology Park, Oak Ridge Tennessee*, June 1997
- Reports from DOE Operational Awareness Reviews from May through August 1999 and from October 1999 through May 2000

### Interviews

- BNFL Compliance Support Manager
- BNFL Regulatory Compliance Manager
- BNFL Training & Records Manager
- BNFL Quality Assurance Manager
- BNFL ISM Implementation Manager
- BNFL Waste/Transportation Operations Manager
- BNFL Waste/Transportation Tracking Coordinator
- BNFL Recycle/Survey Operations Manager
- BNFL Environmental Engineer
- DOE-ORO COR for BNFL
- DOE-ORO Facility Representatives assigned to BNFL (2)
- DOE-ORO Toxic Substance Control Act Coordinator
- Parallax Safety Engineer Consultant to the DOE-ORO COR

### Conclusion

*The objective was met.*

### Opportunities for Improvement

None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Environmental Protection	<b>OBJECTIVE:</b> SME-ENV.1 <b>DATE:</b> June 29, 2000
--	---

Noteworthy Practices

None.

Team Member: <u>James L. Elmore</u> Jim Elmore	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Bobby Davis</u> Bobby Davis	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Fire Protection	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-FP.1</b> <b>June 29, 2000</b>
---	-----------------------------------	---

### OBJECTIVE

BNFL's policies, procedures, and documents are established and are adequate for the work or process to be performed safely with respect to fire protection. (CE-I-5)

### Criteria and Discussion of Results

#### SME-FP.1-1

BNFL's procedures for individual processes or maintenance actions ensure that controls for fire protection are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present.

**Discussion of Results** – The EWP process is used as the backbone of BNFL's operations. This process incorporates a screening form and checklist to identify fire hazards and the controls necessary to protect against them. The team that produces an EWP is required to consist of the following individuals (or their representatives):

- Group Manager,
- Supervisor/foreman of the task,
- Representative sample of workers,
- Radiological/Safety Technician (RST),
- Health & Safety Officer, and
- Subject matter experts as determined by the Group Manager.

This EWP team provides a reasonable body of experience and expertise to review the type of fire hazards present within BNFL's operations. However, the process to change the EWP after it is initially approved is not as comprehensive. The EWP procedure (PR-RO-005, Revision 2, Section 4.0, Step 5) allows changes to the EWP with only the approval of the Group Manager. The EWP team that approved the original document is not required to review nor approve these changes. Additionally, the Group Manager (or his/her representative) is not required to use the screening form or checklist to review the scope/process change as was done for the original work scope. The EWP procedure provides a Standard Task Hazards/Control Assessment form as Attachment 3. This is a matrix listing of standard hazards and controls. It provides for hot work, storage of flammable liquids, outage of fixed fire protection systems, and means of egress.

PO-RO-001, *Fire Protection Program*, documents the program and covers all phases of the demolition work. This policy references the WSS set requirements (i.e., 29 CFR 1926 and 29 CFR 1910), design standards (i.e., Standard Fire Protection Code and DOE-ORO *Fire Prevention and Protection Program Implementation Guide*, 8<sup>th</sup> edition), Fire Hazards Analysis, and the BIO. The Fire Protection Program controls the fire protection system status, maintenance requirements, and interfaces with contractors that provide services to these systems (i.e., OMI, the Community Reuse Organization of East Tennessee, and Bechtel Jacobs Company LLC). This overall Fire Protection Program, in

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Fire Protection</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-FP.1</b> <b>June 29, 2000</b>
--	-----------------------------------	---

conjunction with the BNFL EWP process and Health and Safety Program, provides assurance that the controls for fire protection are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present, except when scope or process changes are implemented.

*This criterion was not met. Refer to the MG.3 form, MG.3-3-OFL.1*

### SME-FP.1-2

**BNFL's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with fire protection are in place prior to commencing work and that the controls remain in effect as long as work is taking place.**

**Discussion of Results** – The EWP process (i.e., PR-RO-005, Revision 2) is used as the backbone of BNFL's operations. This process uses a screening form and checklist to identify fire hazards and the controls necessary to protect against them. The team that produces an EWP is required to consist of the following individuals (or their representatives):

- Group Manager,
- Supervisor/foreman of the task,
- Representative sample of workers,
- RST,
- Health & Safety Officer, and
- Subject matter experts as determined by the Group Manager.

This EWP team provides a reasonable body of experience and expertise to review the type of fire hazards present within the BNFL operations. However, the process to change the EWP after it is initially approved is not as comprehensive. (Refer to SME-FP.1-1-OFL.1.) The BNFL Fire Protection Program is documented in BNFL policy PO-RO-001, Revision 0. This document, in concert with its references and associated programs, provides controls associated with fire protection systems and programs.

Although PR-SS-068, *Health and Safety Plan*, has as its purpose to "serve as the project-wide document addressing the control of hazards expected to be common to the anticipated on-site tasks," the OSHA requirements for fire protection, such as 29 CFR 1910 subpart E, "Means of Egress," and the IIG-IS-004, *Control of Combustibles*, are not included. The means of egress are critical for personnel to safely move around the facility as well as exit the area/facility if necessary. The procedure for control of combustibles (IIG-IS-004, Revision 4) is necessary to ensure that the assumptions of the BIO are not invalidated. The constant movement of materials in the facility can easily result (and has done so numerous times) in blockage of the exit aisles and corridors and the accumulation of combustible materials in excess of the quantities assumed in the

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Fire Protection</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-FP.1</b> <b>June 29, 2000</b>
--	-----------------------------------	---

BIO. This is an important point because these programs are used to confirm that the overall configuration of material in the facility is maintained safely. OSHA requirements for fire protection should be integrated into the *Health and Safety Plan*.

*This criterion was not met.*

**SME-FP.1-3**

**BNFL's procedures provide mechanisms or processes for gaining authorization to conduct operations or perform work.**

**Discussion of Results** – The EWP process is used as the backbone of the BNFL operations. See the discussion in SME-FP.1-2 above. The EWP team provides a reasonable body of experience and expertise to review the type of fire hazards present within the BNFL operations. The daily activities are controlled via the POD Meeting. In addition to the normal BNFL process, a Systems Engineer has been assigned responsibility for the condition and control of the configuration of the fire protection systems. This individual has established processes to manage the surveillance and maintenance of these systems (e.g., PR-RO-001, *Fire Protection System -Sprinkler Outages*). No sprinkler system is operated or worked on without the prior approval of the Systems Engineer responsible for fire protection systems as well as going through the BNFL work process.

*This criterion was met.*

**SME-FP.1-4**

**BNFL's mechanisms for the control of work specify that line management is responsible for safety.**

**Discussion of Results** – The ISMS program description specifies line management responsibility for safety (reference PO-SS-017, Section 3, "Scope"). Additional citations include Sections 4.2, 4.5, and 4.6.1. The Fire Protection Program establishes that the Systems Engineer is responsible for fire protection systems, but he must use the BNFL processes to control this work. PR-SS-068, *Health and Safety Plan*, confirms line management's responsibility in Sections 4.1 and 4.2.

*This criterion was met.*

**SME-FP.1-5**

**BNFL personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

**Discussion of Results** – The predominant fire source of ignition in BNFL's operations is hot work with plasma arc torches. This hazard is included in the training of most workers. Their level of training is commensurate with their responsibilities. The training and experience required of the personnel who utilize the EWP checklists and screens is adequate, but the personnel required to approve changes to the EWP do not have competence commensurate with their authority when they don't use additional

SME-FP.1-3

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b>	<b>OBJECTIVE:</b>	<b>SME-FP.1</b>
<b>Subject Matter Expert (SME) - Fire Protection</b>	<b>DATE:</b>	<b>June 29, 2000</b>

personnel to review the changes. The Fire Protection subject matter expert displayed an outstanding knowledge of coordinating the Fire Protection Program needs with BNFL's operations and the contractors providing service to BNFL.

*This criterion was met. See the MG.3 form, MG.3-3-OFL.1.*

### Record Review

- II-IS-011, *Hazard Communication*, Revision 1, December 22, 1997
- PR-RO-005, *Enhanced Work Planning*, Revision 2, June 1, 2000
- PR-SS-068, *Health and Safety Plan*, Revision 0, June 3, 2000
- PO-RO-001, *Fire Protection Program*, Revision 0, April 4, 2000
- IIG-IS-004, *Fire Protection-Control of Combustibles*, Revision 0, July 13, 1999
- PR-RO-601, *Fire Protection Systems Inspection*, Revision 1, May 4, 2000
- II-RC-015, *Operation, Testing, and Maintenance of the Safety-Significant Fire Protection Sprinkler System in Unit 1 of Building K-33*, Revision 1, April 14, 1999
- PR-RO-001, *Fire Protection System- Sprinkler Outages*, Revision 0, January 25, 2000
- II-IS-007, *Flammable Materials Storage and Handling*, Revision 0, November 20, 1997
- MI-IS-021, *Flammable Material Storage and Handling*, Revision 0, November 20, 1997
- IIG-RC-018, *Systems Engineer Responsibilities*, Revision 0, January 14, 1998
- PO-CS-015, *Configuration Management*, Revision 0, March 13, 2000.
- PO-CS-006, *Work Smart Standards*, Revision 0, February 16, 2000
- II-OA-023, *Lube Oil Tank Removal*, Revision 0, March 2, 1999
- II-OA-017, *Removal of Lube Oil Stations*, Revision 9, November 16, 1999
- MI-IS-022, *Safe Operations of Internal Combustion Engines*, Revision 0, November 20, 1997
- MIG-HR-003, *New Employee Orientation*, Revision 0, June 16, 1998
- PO-CS-500, *Training Plan*, Revision 3, May 31, 2000
- II-IS-013, *General Safety and Housekeeping Walkdown*, Revision 0, February 24, 1998
- MI-RC-007, *Emergency Response Organization*, Revision 5, August 8, 1999
- IIG-RC-001, *Emergency Response*, Revision 4, July 27, 1998
- PO-RO-002, *BNFL-ETTP Plan of the Day (POD)*, Revision 0, May 26, 2000 (Note: This document was not applicable to fire protection, since it applies to Removal Operations.)
- MIG-IS-001, *Health and Safety Plan*, revision 3, June 16, 1999
- IIG-RC-003, *Emergency Exercise and Drills*, Revision 5, July 28, 1998
- MI-RC-002, *Facility Emergency Plan*, Revision 5, May 18, 1999
- MI-RC-017, *Emergency Action Level Classification Instruction*, Revision 2, August 11, 1999
- IIG-OC-015, *Response to Unplanned Activities or Events During Off-shifts*, Revision 0, February 11, 1998
- IIG-RC-005, *Re-Entry and Recovery*, Revision 4, July 28, 1998
- MI-TE-002, *Emergency Communication and Use of the Radio System*, Revision 1, April 28, 1998
- MI-RC-009, *Emergency Plan Training*, Revision 4, August 6, 1999
- PO-SS-100, *Support Services Functional Organization*, Revision 3, May 16, 2000
- IIG-OA-006, *Waste Characterization and Certification*, Revision 1, June 18, 1998
- *Training Need Assessment Checklist for Project and Regulatory-Driven Requirements*, revised May 16, 2000



# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b>	<b>OBJECTIVE:</b>	<b>SME-FP.1</b>
<b>Subject Matter Expert (SME) - Fire Protection</b>	<b>DATE:</b>	<b>June 29, 2000</b>

- "Integrated Safety Management Program Checklist," undated
- BNFL's Microsoft Access-based *Sprinkler Outage Notification System*, as of June 21, 2000
- BNFL *Comparative Evaluation of Flame/Fire Retardant PPE Options*, May 23, 2000
- CTC/EB-CL1202-00, "External Independent Review of BNFL Operations and Projects for the U.S. Department of Energy(Task"C")," Draft, June 6, 2000.

### Interviews

- BNFL Support Services Manager
- BNFL Health and Safety Manager
- BNFL Removal Operations Manager
- BNFL Dismantlement Manager and Subcontracts Manager representative
- BNFL Group Manager
- BNFL ISM Implementation Manager
- BNFL Removal Operations Technical Services Manager/ Project Emergency Manager
- BNFL Waste Operations Manager
- BNFL Fire Protection subject matter expert
- DOE-ORO Facility Representatives (2)
- DOE-ORO Team Leader, Office of the Assistant Manger for Environment, Safety, Health, and Emergency Management
- DOE-ORO COR for BNFL

### Conclusion

*The objective was met.*

### Opportunities for Improvement

**SME-FP.1-2-OFL.1** The OSHA requirements for fire protection, such as means of egress and control of combustibles, should be integrated into the BNFL *Health and Safety Plan*.

### Noteworthy Practices

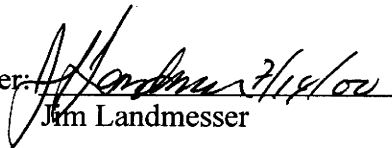
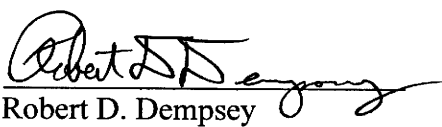
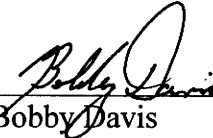
None

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Fire Protection	<b>OBJECTIVE:</b> SME-FP.1 <b>DATE:</b> June 29, 2000
---	--

Team Member: <u></u> Jim Landmesser	Team Leader: <u></u> Robert D. Dempsey
Subteam Leader: <u></u> Bobby Davis	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Industrial Hygiene and Occupational Health	<b>OBJECTIVE:</b> SME-IH.1 <b>DATE:</b> June 29, 2000
--	--

### OBJECTIVE

BNFL's policies, procedures, and documents for industrial hygiene and occupational health are established and are adequate for the work or process to be preformed. (CE-I-5)

### Criteria and Discussion of Results

**SME-IH.1-1** BNFL's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present.

Discussion of Results – Review of documents, interviews with personnel, and site visits affirmed that controls are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present. PR-RO-005, *Enhanced Work Planning*, includes appropriate ES&H staff, and workers performing task hazards analysis and identifying necessary controls. (F-3, P-6)

*The criterion was met.*

**SME-IH.1-2** BNFL's procedures for individual disciplines ensure that individual processes or maintenance actions include adequate controls associated with the Industrial Hygiene and Occupational Health Programs are in place prior to commencing work and that the controls remain in effect as long as work is taking place.

Discussion of Results – Review of documents, interviews with personnel, and site visits affirmed that individual processes or maintenance actions include adequate controls associated with the Industrial Hygiene and Occupational Health Programs, that the controls are in place prior to commencing work, and that the controls remain in effect as long as work is taking place. BNFL's industrial hygiene-specific procedures and policies are available on BNFL's internal web page. PR-SS-068, *Health and Safety Plan*, dated June 3, 2000, replaced the individual procedures for hazard assessment, respiratory protection, personal protective equipment, temperature extremes, exposure monitoring, confined space entry, hearing protection, hazard communication, illumination, asbestos awareness, and others. Both the *Health and Safety Plan* and the specific procedures and policies for industrial hygiene are adequate for implementation of the Industrial Hygiene and Occupational Health Programs. (F-3, P-6)

*The criterion was met.*

**SME-IH.1-3** BNFL's procedures provide mechanisms or processes to ensure industrial hygiene and occupational health compliance requirements will be met prior to conducting operations or performing work.

SME-IH.1-1

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Industrial Hygiene and Occupational Health</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-IH.1</b> <b>June 29, 2000</b>
---	-----------------------------------	---

**Discussion of Results** – Review of documents, interviews with personnel, and site visits affirmed that industrial hygiene and occupational health compliance requirements are met prior to conducting operations or performing work. PO-CS-006, *Work Smart Standards*, identifies Federal and state regulations and other requirements specific to industrial hygiene and occupational health compliance requirements. PR-SS-068, *Health and Safety Plan*, references the WSS set for addressing the control of health and safety hazards expected at the BNFL projects. An EWP team that includes ES&H subject matter experts performs task hazard analysis and identifies necessary controls before performing work. (F-1, P-6)

*The criterion was met.*

**SME-IH.1-4**

**BNFL's mechanisms for the control of work specify that line management is responsible for the Industrial Hygiene and Occupational Safety Programs.**

**Discussion of Results** – Review of documents, interviews with personnel, and site visits provided evidence that the controls for the performance of work specify that line management is responsible for the Industrial Hygiene and Occupational Safety Programs. Section 3, "Scope," of the BNFL ISMS description identifies line management as responsible for the health and safety of all activities performed within their facilities and specifies responsibilities in health and safety procedures. (F-5, P-1)

*The criterion was met.*

**SME-IH.1-5**

**BNFL personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

**Discussion of Results** – Review of documents, interviews with personnel, and site visits affirmed that the personnel who plan, control, and conduct work are required to have competence commensurate with their assigned responsibilities. The position description for Industrial Hygienist requires a four-year college degree in a relevant technical or scientific area or an equivalent combination of education and experience; five years of experience in related health and safety work; and Certified Industrial Hygienist or Industrial Hygienist in Training. The position description for the Health & Safety Manager requires a four-year college degree in a relevant technical or scientific area or equivalent experience; ten years of experience in related health and safety fields; and Certified Safety Professional or Certified Industrial Hygienist. The position of Industrial Hygienist Technician requires a two-year degree in Industrial Hygiene or equivalent experience; five years of experience with test equipment, instrumentation, and calibration, job coverage monitoring and sampling; and computer skills. (F-1, P-3)

*The criterion was met.*

SME-IH.1-2

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

**Phase I Assessment Form**

<b>FUNCTIONAL AREA</b>	<b>OBJECTIVE:</b>	<b>SME-IH.1</b>
<b>Subject Matter Expert (SME) - Industrial Hygiene and Occupational Health</b>	<b>DATE:</b>	<b>June 29, 2000</b>

## Record Review

- Resumes for the BNFL Certified Industrial Hygienist, Industrial Hygienist, Assistant Health & Safety Officer, Health & Safety Manager.
- Position Descriptions for the BNFL Certified Industrial Hygienist, Health & Safety Manager, and Assistant Health & Safety Officer.
- *BNFL-ETTP Safety Committee Action Items*, June 21, 2000
- IIG-HR-006, *Employee Concern Process Flow*, Revision 0, May 9, 2000
- II-IS-001, *Respiratory Protection*, Revision 1, February 22, 1999
- II-IS-006, *Confined Space Entry*, Revision 2, January 28, 1998
- MI-IS-015, *Confined Space Entry*, Revision 0, November 16, 1998
- II-IS-010, *Asbestos Awareness, Avoidance, and Notification*, Revision 0, June 17, 1999
- II-IS-011, *Hazard Communication*, Revision 1, December 22, 1997
- MIG-IS-003, *Hazard Communication*, Revision 1, December 22, 1997
- II-IS-012, *Operation of Health and Safety Monitoring Instruments*, Revision 0, June 17, 1999
- II-IS-014, *Calibration of Health and Safety Equipment and Instrumentation*, Revision 0, June 17, 1999
- MIG-IS-001, *Health and Safety Plan*, October 24, 1997
- MIG-IS-001, *Health and Safety Plan*, Revision 3, June 15, 1999
- PR-SS-068, *Health and Safety Plan*, June 20, 2000
- MIG-IS-002, *Medical Monitoring*, Revision 0, November 11, 1998
- MI-IS-002, *Medical Monitoring*, Revision 0, November 12, 1998
- MIG-IS-006, *Temperature Extremes*, Revision 0, November 17, 1998
- MI-IS-016, *Temperature Extremes*, Revision 0, November 16, 1998
- MIG-IS-007, *Hazardous Atmospheres Monitoring*, Revision 1, December 22, 1997
- MI-IS-012, *Hazardous Atmospheres Monitoring*, Revision 1, December 22, 1997
- MIG-IS-008, *Industrial Hygiene Surveillance*, Revision 1, June 3, 1998
- MIG-IS-011, *Disposable Respirator Selection and Voluntary Use*, Revision 0, November 12, 1998
- MI-IS-001, *Personal Protective Equipment*, Revision 1, February 22, 1999
- MI-IS-009, *Illumination*, Revision 0, November 16, 1998
- MI-IS-013, *Hearing Protection*, Revision 0, November 16, 1998
- MI-IS-023, *Lead Exposure Protection*, Revision 0, November 16, 1998
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- IIG-OC-033, *Removal of Mercury Capsules from Thermostats*, Revision 0, August 14, 1998
- PR-RO-603, *Discovery of Suspect Asbestos Material*, Revision 1, May 5, 2000
- PR-CS-006, *Independent Assessment*, Revision 4, April 3, 2000
- PR-GM-001, *Stop Work Authority*, June 8, 2000
- PR-SS-011, *Protective Clothing*, Revision 0, March 23, 2000
- II-RC-012, *Enhanced Work Planning Implementation*, July 21, 1999
- EWP-EL-1004, *Removal of Mercury Capsule from Thermostats*, Revision 1, March 23, 2000
- EWP-HVAC-001, *Supply Duct Gasket Removal*, Revision 1, January 25, 2000
- PO-CS-006, *Work Smart Standards*, February 24, 2000
- PO-CS-020, *Waste Minimization/Pollution Prevention*, Revision 0, May 26, 2000
- Training Outline covering industrial hygiene issues for the biweekly RST Meeting, June 15, 2000

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Industrial Hygiene and Occupational Health</b>	<b>OBJECTIVE:</b> SME-IH.1 <b>DATE:</b> June 29, 2000
---	--

- PO-CS-012, *Project Document Hierarchy*, Revision 1, May 17, 2000
- MIG-PD-001, *Flowdown of BNFL Inc. Corporate Policies to the ETTP 3-Building D&D and Recycle Project*, August 27, 1997
- *Final Report For the Readiness Assessment Of The BNFL Decontamination And Decommissioning Workshop Dated September 1999 On The East Tennessee Technology Park Decontamination & Decommissioning And Recycle Project Contract No. DE-AC05-97OR22576*, November 9, 1999
- *Management/Self-Assessment Report*, October 21, 1999
- Executive Summary of the Management Self-Assessment conducted May 15-23, 2000
- DOE Operational Awareness Review Reports from October 1999 through May 2000
- *Independent Readiness Assessment of D&D Workshop Operations - Final Report*, June 10, 1999

#### Interviews

- BNFL Industrial Hygienists (2)
- BNFL Regulatory Compliance Manager
- BNFL Support Services Manager
- BNFL Health & Safety Manager
- BNFL Assistant Health & Safety Officer
- BNFL Fire Watches (2)
- BNFL Welder
- BNFL Laborer
- DOE-ORO COR for BNFL

#### Conclusion

*The objective was met.*

#### Opportunities for Improvement

None.

#### Noteworthy Practices

None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Industrial Hygiene and Occupational Health	<b>OBJECTIVE:</b> SME-IH.1 <b>DATE:</b> June 29, 2000
---	--

Team Member: <u>Alan Trivette</u> Alan Trivette	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Bobby Davis</u> Bobby Davis	Date: <u>7/14/00</u>

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Radiation Protection	<b>OBJECTIVE:</b> SME-RAD.1 <b>DATE:</b> June 29, 2000
--	---

## OBJECTIVE

BNFL's radiation protection policies, procedures, and documents are established and are adequate for the work or process to be performed safely. (CE-I-5)

## Criteria and Discussion of Results

**SME-RAD.1-1** BNFL's radiation protection procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present.

**Discussion of Results** – BNFL's policies and procedures require that radiological controls be implemented prior to commencing work and that the controls remain in place as long as the job is being performed. The requirements for the As Low as Reasonably Achievable (ALARA) controls and RWP are based upon compliance with 10 CFR 835 requirements.

PO-SS-010, *Occupational ALARA*, establishes the formal elements and requirements for the ALARA process in order to comply with 10 CFR 835. ALARA reviews are identified by and integrated with the RWP process. During pre-job planning, if an ALARA review is required, the necessary ALARA controls are identified and prescribed.

PO-SS-007, *Operational Controls*, requires compliance with either the controlling work procedure and/or EWP document. This policy also establishes that the RWP shall be the written authorization used to establish radiological controls for work activities. The RWP is created by the Radiological Controls Manager/designee as part of the EWP process. This policy also establishes the ALARA controls for the project.

PR-SS-016, *Control of Radiological Work*, establishes requirements and guidance for the RST to use to ensure that work in radiological areas is performed safely. RSTs are required to review the RWP, ensure the job scope is authorized by the RWP, and amend the RWP, if necessary, prior to the start of work. In accordance with PR-SS-018, *Posting and Labeling*, RSTs are responsible for removing postings and boundaries as soon as practical when they are no longer required.

PR-SS-009, *Radiological Work Permits*, establishes the process for writing, approving, administering, and terminating RWPs for the project. The RWP must address all radiological controls that are necessary prior to the start of work. RWPs are approved, maintained, and terminated by the Radiological Controls Manager/designee. Expired RWPs are required to be removed from the RWP binder on a weekly basis. Job-specific RWPs are terminated after any applicable post-job surveys are performed.

SME-RAD.1-1



# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Radiation Protection	<b>OBJECTIVE:</b> SME-RAD.1 <b>DATE:</b> June 29, 2000
--	---

*This criterion was met.*

### SME-RAD.1-2

BNFL's radiation protection procedures for individual disciplines ensure that individual processes or maintenance actions associated with radiation protection have controls in place prior to commencing work and that the radiation protection controls remain in effect as long as work is taking place.

**Discussion of Results** – BNFL's policy is that Operations Managers are responsible for managing the multidisciplinary teams from the various functional areas, and the Radiological Controls Manager is responsible for implementation of the RWP procedure. The requirements for the ALARA controls and RWP are based upon compliance with 10 CFR 835 requirements.

PO-SS-007, *Operational Controls*, requires that pre-job briefings include discussion of radiation/radioactive material contamination controls and any radiologically limiting conditions which would void the RWP. While work is in progress, work supervisors must periodically confirm that radiological controls are being followed; RSTs must confirm the adequacy of area controls and work practices; and the Radiological Controls Manager/Operations Manager must periodically monitor collective dose accumulation compared to any pre-job dose estimate. All radiation workers have stop work authority.

PR-SS-016, *Control of Radiological Work*, requires that during work the RST must observe the work practices to ensure compliance with the RWP and principles of ALARA.

PR-SS-009, *Radiological Work Permits*, establishes the process for writing, approving, administering, and terminating RWPs for the project. The RWP must address all radiological controls that are necessary prior to the start of work. RWPs are approved, maintained, and terminated by the Radiological Controls Manager/designee.

*This criterion was met.*

### SME-RAD.1-3

BNFL's procedures provide mechanisms or processes to ensure radiation protection compliance requirements will be met prior to conducting operations or performing work.

**Discussion of Results** – BNFL implements the requirements in 10 CFR 835 through PO-SS-001, *Radiation Protection Program Plan*. BNFL's policies establish programmatic requirements necessary to meet the Radiation Protection Program (RPP) commitments. Project procedures establish the specific steps to be taken (i.e., written authorizations such as RWPs and EWPs are in place) to ensure radiation protection prior to performing radiological operations.

SME-RAD.1-2

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) – Radiation Protection</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-RAD.1</b> <b>June 29, 2000</b>
---	-----------------------------------	--

PR-SS-018, *Posting and Labeling*, assigns responsibility for posting and labeling to the RSTs. RSTs are responsible for surveying areas, posting based upon survey results, periodic monitoring to ensure posting is appropriate and removing postings and boundaries when they are no longer required.

PR-SS-016, *Control of Radiological Work*, assigns responsibilities for radiological job coverage to the RSTs. RSTs are required to review the RWP, ensure the job scope is authorized by the RWP, and amend the RWP, if necessary, prior to the start of work.

*This criterion was met.*

**SME-RAD.1-4**

**BNFL's mechanisms for the control of work specify that line management is responsible for radiation protection.**

**Discussion of Results** – PO-SS-001, *Radiation Protection Program Plan*, states that the BNFL project management is responsible for compliance with the RPP. The General Manager/designee is responsible as the corporate interface for RPP commitments and for ensuring that adequate resources are provided to implement the RPP. The Support Services Manager is responsible for RPP management as it applies to overall project safety, and the Radiological Controls Manager is responsible for technical oversight, administration, and implementation of the RPP.

PO-SS-007, *Operational Controls*, specifies that the Radiological Controls Manager, along with Operations Managers and supervisors, shall ensure adequate planning and control of radiological work activities. Work supervisors are required to periodically confirm that radiological controls are followed on the job. The Radiological Controls Manager, in cooperation with the responsible Operations Manager, is required to periodically monitor collective dose accumulation compared to pre-job estimates. All radiation workers have the authority and responsibility to stop work if radiological controls are inadequate or not being properly implemented.

In the event of an off-normal event, the Operations Manager is responsible for assuming control and directing activities necessary to mitigate the release of radioactive material. The Operations Manager must notify the Radiological Controls Manager, who will advise him/her regarding the radiological impact assessment and radiation protection response.

*This criterion was met.*

**SME-RAD.1-5**

**BNFL's personnel who plan, control, and conduct radiological work are required to have competence commensurate with the assigned responsibilities.**

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) – Radiation Protection</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-RAD.1</b> <b>June 29, 2000</b>
---	-----------------------------------	--

**Discussion of Results** – PO-SS-004, *Training/Qualification*, establishes the minimum level of training and competency required for radiation workers and RSTs. The requirements in this policy are based on the requirements in 10 CFR 835. BNFL requires RSTs to possess sufficient experience and training to qualify either as a Senior Health Physics Technician per ANSI/ANS 3.1-1987, *Selection, Qualification, and Training of Personnel for Nuclear Power Plants*, or current DOE Radiation Control Technician qualifications.

The Radiological Controls Manager is required to have Bachelor of Science/equivalent experience or a Master of Science in health physics or related discipline and minimum of ten years of experience in health physics. The Assistant Radiological Controls Manager is required to have a minimum of five years of experience in operational health physics. The Recycle/Survey Operations Manager is required to have Bachelor of Science in a technical field/equivalent experience and 8 to 15 years of nuclear and/or D&D experience and radiological controls experience.

*This criterion was met.*

### **Record Review**

- Results from the Management Assessment of RWPs performed by Tim Gillespie, Radiation Safety Officer, August 31, 1999
- Results from the Management Assessment of the RPP and Internal Audit Program performed for April 2000, May 1, 2000
- EWP-COMP-004, *Stator/Rotor Assembly Removal*, Revision 0, March 29, 2000
- EWP-SC-AT-01, *K762 Synchronous Condenser Removal*, February 22, 2000
- PIPE-009, *Removal of Motor Couplings*, February 16, 2000
- PIPE-024, *SeaLand Container Loading*, February 22, 2000
- EWP-WM-005, *Radiological Survey for Characterization*, April 10, 2000
- EWP-WM-402, *Loading and Inspection of Vehicles*, May 22, 2000
- PO-SS-010, *Occupational ALARA*, Revision 0, March 22, 2000
- PO-SS-011, *Radiological Instrumentation*, Revision 0, March 22, 2000
- PO-SS-012, *Record Keeping and Documentation*, Revision 0, March 22, 2000
- PO-SS-013, *Radiation Protection Program Assessment*, Revision 0, March 22, 2000
- PO-SS-014, *Workplace Monitoring and Surveillance*, Revision 0, March 22, 2000
- PR-RO-002, *Plasma Arc Cutting Operations*, Revision 0, May 1, 2000
- PO-SS-001, *Radiation Protection Program Plan*, Revision 0, March 22, 2000
- PO-SS-002, *10 CFR 835 Compliance Commitments*, Revision 0, March 22, 2000
- PO-SS-004, *Training/Qualification*, Revision 0, March 22, 2000
- PO-SS-005, *Area Controls*, Revision 0, March 22, 2000
- PO-SS-006, *Radioactive Material Control*, Revision 0, March 22, 2000
- PO-SS-007, *Operational Controls*, Revision 0, March 22, 2000
- PO-SS-008, *Dose Assessment*, Revision 0, March 22, 2000

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) – Radiation Protection</b>	<b>OBJECTIVE:</b> SME-RAD.1 <b>DATE:</b> June 29, 2000
---	---

- PO-SS-010, *Occupational ALARA*, Revision 0, March 20, 2000
- PR-WM-002, *Radiological Survey and Unconditional Release of Materials*, Revision 1, May 5, 2000
- PR-WM-003, *Survey Center Operations*, Revision 0, March 6, 2000
- PR-WM-004, *Radioactive Source Control and Accountability*, Revision 0, March 6, 2000
- PR-WM-005, *Control of Radiation Monitoring Instrumentation*, Revision 0, February 29, 2000
- PR-SS-002, *Radiological Instrument Control*, Revision 0, March 22, 2000
- PR-SS-007, *External Dosimetry*, Revision 0, March 23, 2000
- PR-SS-008, *Internal Dosimetry*, Revision 0, March 23, 2000
- PR-SS-009, *Radiological Work Permits*, March 23, 2000
- PR-SS-011, *Protective Clothing*, Revision 0, March 23, 2000
- PR-SS-012, *Personnel Survey and Decontamination*, Revision 0, March 23, 2000
- PR-SS-014, *Radiological Surveys*, Revision 0, March 23, 2000
- PR-SS-015, *Airborne Radioactivity Sampling and Monitoring*, Revision 0, March 23, 2000
- PR-SS-016, *Control of Radiological Work*, Revision 0, March 23, 2000
- PR-SS-018, *Posting and Labeling*, Revision 0, March 23, 2000
- PR-SS-020, *Radioactive Source Control*, Revision 0, March 23, 2000

### Interviews

- BNFL Radiological Controls Manager
- BNFL Assistant Radiological Controls Manager

### Conclusion

*The objective was met.*

Opportunities for Improvement – None.

Noteworthy Practices – None.

Team Member: <u><i>Dana M. Willafor</i></u> Dana Willafor  Subteam Leader: <u><i>Bobby Davis</i></u> Bobby Davis	Team Leader: <u><i>Robert D. Dempsey</i></u> Robert D. Dempsey  Date: <u>7/14/00</u>
--	---

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Safety	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-SAF.1</b> <b>July 14, 2000</b>
--	-----------------------------------	--

### OBJECTIVE

**BNFL's policies, procedures, and documents that cover safety are established and are adequate for the decontamination and demolition work or process to be performed safely. (CE-I-5)**

### Criteria and Discussion of Results

**SME-SAF.1-1**      **BNFL's procedures for individual processes or maintenance actions ensure that controls are implemented prior to commencing work and that these controls remain in effect as long as the hazard is present.**

**Discussion of Results** – Procedures reviewed required work controls to be implemented prior to commencing work and that controls remain in place.

The BNFL EWP process provides for a generally effective system for advanced planning of individual work processes that incorporates hazards assessment and input by craft workers, management, and safety and health subject matter experts. An opportunity for improvement for this process was identified under another criteria as SME-SAF.1-3-OFL.3.

PO-CS-001 and PO-CS-002 define requirements for issuance of policies and procedures. PR-CS-004 contains requirements for approval of revisions to policies and procedures. It was noted by observing dates that several BNFL policies and procedures have been revised and approved by their authors and not by their owners. PR-CS-004 allows the author to approve minor changes to procedures, but he/she must secure reviewer and owner approvals for other changes. However, the reviewer and owner are not required to sign and date when they approved the revision. Their approval is "assumed" and only the author's name is shown by the revision date. The date of the assumed approval of revision by the reviewer and owner are not shown. Instead, only the original date that the procedure was first issued is listed. This practice could conceivably allow some procedures to bypass approval by the reviewer and owner. Additionally, Attachment 1 of PR-CS-004 requires the reviewer to be "independent." However, this term is not defined in the procedure, thus allowing the potential for someone in the same work group or supervisory chain to be the reviewer.

PO-CS-001, PO-CS-002, and PO-CS-004 do not require policies and procedures to be issued with a statement of what policies or procedures are being replaced, superceded, or cancelled by them. Also, the on-line list of procedures was not found to be current for certain safety procedures that had been superceded. With the large amount of effort being expended by BNFL to replace and consolidate procedures, confusion results when one cannot identify precisely what procedure governs a certain area. For example, the new *Health and Safety Plan*, PR-SS-068, replaces approximately 20 procedures, including such areas as fall protection, hot work, and safe operation of hand and power

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b>	<b>OBJECTIVE:</b>	<b>SME-SAF.1</b>
<b>Subject Matter Expert (SME) - Safety</b>	<b>DATE:</b>	<b>July 14, 2000</b>

tools. However, the original procedures for these areas (i.e., II-IS-004, II-IS-009, II-IS-017) are still shown as current in the on-line list of procedures. The on-line list should be brought up to date.

There is one area of concern regarding the effective dates of policies and procedures. The ISMS Verification Team was told that the effective date of policies and procedures is the date that the document is placed on the BNFL web. However, neither PO-CS-001, *Content and Format for Policies*, nor PO-CS-002, *Content and Format for Procedures*, makes it clear how effective dates are assigned.

One example of management's commitment to safety was observed in the BNFL General Manager's letter of April 19, 2000, to all employees that emphasized the concepts of teamwork, training, safe planning, and stop work authority by each individual. These areas are examples of controls that help achieve a good safety program.

Proper standards are a required control by PO-CS-006, *Work Smart Standards*, and by PO-SS-017, *Integrated Safety Management System Program Description*, Sections 4.2.5, 4.4, and 4.5. Requirements to implement and establish controls are also stated in Sections 4.2.6, 4.2.7, 4.4.1.4, 4.4.2.3, 4.6.1, and 4.7.

*This criterion was not met. See SME-SAF.1-1-OFL.1 and SME-SAF.1-1-OFL.2.*

### SME-SAF.1-2

**BNFL's procedures that cover safety ensure that individual processes or maintenance actions include adequate controls associated with a safety program, are in place prior to commencing work and that the controls remain in effect as long as work is taking place.**

**Discussion of Results** – Procedures reviewed generally required adequate safety controls to be in place and maintained. PR-SS-068, *Health and Safety Plan*, is a comprehensive revision of the previous plan and has allowed for elimination of about 20 separate safety procedures. However, it lacks coverage for electrical safety practices or reference to other procedures where this is covered.

The BNFL Safety Committee serves as a safety control, and it has shown some excellent results in resolving safety and health issues and promoting the overall safety and health program. Specific positives include its makeup of management and labor representatives, making decisions, taking corrective actions and tracking their status at each meeting, having specialty subcommittees to handle things such as incentive programs and special investigations, and generating meeting minutes. These all serve to enhance the committee's success.

Proper standards are a required control by PO-CS-006, *Work Smart Standards*, and by PO-SS-017, *Integrated Safety Management Program Description*, Sections 4.2.5, 4.4,

SME-SAF.1-2

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Safety	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-SAF.1</b> <b>July 14, 2000</b>
--	-----------------------------------	--

and 4.5. Requirements to implement and establish controls are also stated in Sections 4.2.6, 4.2.7, 4.4.1.4, 4.4.2.3, 4.6.1, and 4.7.

*This criterion was met.*

### SME-SAF.1-3

**BNFL's procedures provide mechanisms or processes to ensure that safety requirements will be met prior to conducting operations or performing work.**

**Discussion of Results** – BNFL has issued policies and procedures that generally ensure that safety requirements will be met prior to conducting operations or performing work. However, several deficiencies were noted for BNFL procedures for the areas of EWP, WSS, and Readiness Assessments.

The BNFL procedure on EWP, PR-RO-005, has several positive features, including identification of work steps, required hazard analysis, lessons learned input, craft and subject matter expert participation, and identification of required training. Deficiencies in the procedure include the following:

- Lack of discussion of term length (review cycle) of EWPs,
- Lack of required concurrence with the procedure by safety subject matter experts,
- Lack of designation of hoisting and rigging or fall protection on Attachment 1, Phase 4 (Industrial Safety),
- No definite requirement to provide the EWP training for new or transferred employees coming into an ongoing job,
- Lack of full identification of hazard controls for manual lifting and ergonomics, and
- Lack of requirement for each EWP training to be documented for the affected employees in the central BNFL training database.

PO-CS-006, *Work Smart Standards*, dated February 22, 2000, provides the list of government regulations and DOE directives that apply to this contract. The standards listed appear to be generally acceptable. One exception is noted with DOE Order 425.1, STARTUP AND RESTART OF NUCLEAR FACILITIES, dated September 25, 1995, in which only Sections 4(a)(2) and 4(c) are adopted. Per a memorandum from the DOE-DOE-ORO Manager to CORs in January 2000, the current version of the Order was directed to be adopted into the major DOE-ORO contracts. The current version of the Order, DOE O 425.1A, dated December 28, 1998, is the version that needs to be adopted, and it is not in the current version of the BNFL WSS set. A memorandum of direction to make this change in the BNFL contract was issued from the COR to the DOE-ORO Contracting Officer on June 20, 2000, and is awaiting action by the Contracting Officer.

# ISMS VERIFICATION ASSESSMENT FORM

**BNFL Inc.**

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Safety	<b>OBJECTIVE:</b> SME-SAF.1 <b>DATE:</b> July 14, 2000
--	---

It is also noted that a revised DOE-ORO Order 420 Chapter IX, STARTUP AND RESTART OF NUCLEAR FACILITIES, is currently being drafted to provide detailed guidance to DOE-ORO contractors on the conduct of readiness assessments. This DOE-ORO Order chapter should be reviewed for applicability to BNFL.

PO-CS-003, *Readiness Assessments/Certifications*, dated December 30, 1999, provides generally acceptable guidance for conducting readiness assessments. However, the "Readiness Assessment Certification Checklist" in Appendix 2 makes no specific reference for the need to have a currently implemented maintenance program for the equipment to be used and facilities to be restarted or for the need to have current job hazard analyses for the work.

*This criterion was not met. See also the T&Q.1 form, SME-T&Q.1-3-OFI.2, SME-SAF.1-3-OFI.3, and SME-SAF.1-3-OFI.4.*

**SME-SAF.1-4**

**BNFL's mechanisms for the control of work specify that line management is responsible for safety.**

**Discussion of Results** – BNFL's documents specify that line management is responsible for safety. These citations are included in PO-SS-017, *Integrated Safety Management Program Description*, Sections, 3, 4.2, 4.5, and 4.6.1. Additional confirmation is in PR-SS-068, *Health and Safety Plan*, Sections 4.1 and 4.2.

*This criterion was met.*

**SME-SAF.1-5**

**BNFL personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

**Discussion of Results** – Documents reviewed required personnel who plan, control, and conduct work to have competence commensurate with their assigned responsibilities. These documents are discussed below.

*Integrated Safety Management Program Description*, Section 4.2.3, describes competence commensurate with responsibilities; Section 4.4.1.4 describes competence requirements for application of controls; and Section 4.4.2.4. The overall training requirements are described in PO-CS-500, *Training Plan*, and in PO-CS-004, *Quality Assurance Program Plan*.

Specific safety and health training requirements are contained in PR-SS-068, *Health and Safety Plan*, Section 6. Safety and health training requirements shown are generally comprehensive. However, the requirement to train employees on specific EWP's was missing from PR-SS-068, Section 6, and from PO-CS-500, Attachment 8.1, "Training Needs Assessment Checklist." See SME-SAF.1-5-OFI.5.

SME-SAF.1-4



# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b>	<b>OBJECTIVE:</b>	<b>SME-SAF.1</b>
<b>Subject Matter Expert (SME) - Safety</b>	<b>DATE:</b>	<b>July 14, 2000</b>

Training and experience requirements for BNFL safety and health staff are contained in PO-SS-100, *Support Services Functional Organization*, Revision 3, dated May 16, 2000. Experience requirements for functional subject matter experts in this organization are acceptable and require strong experience in the respective disciplines. This policy document defines qualifications that appear to be written around the qualifications of current incumbents of those positions. Qualifications shown in this document are different than those shown in the official "Job Description" for the Support Services Manager position. Actual resumes of incumbents are also contained within this policy document and are posted with the policy on the BNFL internal computer web, which is an unusual practice. See also the OFI in the MG.2 form for criterion MG-2-4 for a finding in this area.

*This criterion was met.*

#### Record Review

- BNFL memorandum from James McAnally, General Manager, to all project employees, subject: "BNFL Inc. Commitment to Safety," April 19, 2000
- II-IS-004, *Fall Protection*, June 16, 1999
- II-IS-009, *Hot Work*, August 30, 1999
- II-IS-013, *General Safety and Housekeeping Walkdown*, Revision 0, Feb. 27, 1998
- II-IS-017, *Safe Operation of Hand & Power Tools*, Revision 1, August 8, 1999
- IIG-MS-003, *Plasma Cutter*, June 2, 1999
- IIG-OC-013, *Operations Self Assessment*, March 20, 1998
- IIG-OC-014, *Plasma Arc Cutting*, October 18, 1999
- IIG-RC-010, *Project Safety Committee Charters*, Aug. 6, 1999
- IIG-RC-017, *Operations Work Control*, June 4, 1999
- MI-IS-006, *Gas Cylinder Inspection*, November 17, 1997
- MI-IS-010, *Hazard Assessment*, Revision 6, August 20, 1999
- MI-IS-019, *General Safety*, September 3, 1998
- MI-IS-026, *General Housekeeping – Walking/Working Surfaces & Ladders/Scaffolds*, December 10, 1997
- MI-MS-001, *Converter Disassembly in the D&D Workshop NCSA-0101*, May 25, 1999
- MI-MS-002, *Tube Bundle Disassembly, Sectioning, Shredding, and Packaging, NCSA-0102*, October 14, 1999
- MI-RC-008, *Enhanced Work Planning*, September 7, 1999
- MIG-MS-001, *MSC D&D Workshop Operational Requirements Overview*, Revision 0, April 27, 1999
- PO-CS-001, *Content and Format for Policies*, May 1, 2000
- PO-CS-002, *Content and Format for Procedures*, January 4, 2000
- PO-CS-003, *Readiness Assessment/Certifications*, December 30, 1999
- PO-CS-004, *Quality Assurance Program Plan*, April 5, 2000
- PO-CS-006, *Work Smart Standards*, February 22, 2000
- PO-CS-007, *Basis for Interim Operation of the Low-Enriched Uranium (LEU) Process Building at the ETPP*, June 14, 2000
- PO-CS-008, *Compliance Support Organization*, Revision 1, May 18, 2000

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> <b>Subject Matter Expert (SME) - Safety</b>	<b>OBJECTIVE:</b> <b>DATE:</b>	<b>SME-SAF.1</b> <b>July 14, 2000</b>
---	-----------------------------------	--

- PO-CS-500, *Training Plan*, May 31, 2000
- PO-RO-200, *Electrical Lockout/Tagout*, Revision 0, April 3, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, May 24, 2000
- PO-SS-100, *Support Services Functional Organization*, Revision 3, May 16, 2000
- PR-CS-004, *Preparing, Revising and Using Categorization Sheets*, March 13, 2000
- PR-GM-001, *Stop Work Authority*, June 8, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 1, May 2, 2000
- PR-RO-006, *Excavation/Penetration Permits*, Revision 0, March 8, 2000
- PR-SS-068, *Health and Safety Plan*, June 6, 2000

### Interviews

- BNFL Support Services Manager
- BNFL Compliance Support Manager
- BNFL Compliance Manager
- BNFL Regulatory Compliance Manager
- BNFL Health & Safety Manager
- BNFL Removal Operations Manager
- BNFL Subcontracts Manager
- BNFL ISM Implementation Manager
- BNFL author of the EWP Procedure
- DOE-ORO Safety Engineer
- DOE-ORO COR for BNFL

### Conclusion

*This objective was met.*

### Opportunities for Improvement

- SME-SAF.1-1-OFI.1** PR-CS-004 should be revised to require revisions of all policies and procedures to show current approvals and revision dates for reviewer and owner, not just for the author. Also, the term "independent" in Attachment 1 of PR-CS-004 should be defined to assure that procedures are not reviewed by someone working in the same group or supervisory chain as the author.
- SME-SAF. 1-1-OFI.2** PO-CS-001, PO-CS-002, and/or PO-CS-004 should be revised to require policies and procedures to be issued with a statement that identifies the effective date and which policies or procedures are being replaced, superceded, or cancelled by them. Also, the on-line list of BNFL procedures should be updated to delete safety procedures that have been superceded or canceled.
- SME-SAF.1-3-OFI.3** The BNFL procedure on the EWP process, PR-RO-005, should be modified to address certain omissions, including lack of discussion of term length (review cycle) for EWPs,

## ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) - Safety	<b>OBJECTIVE:</b> SME-SAF.1 <b>DATE:</b> July 14, 2000
--	---

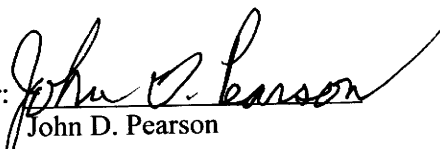
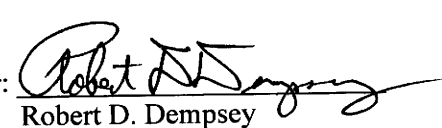
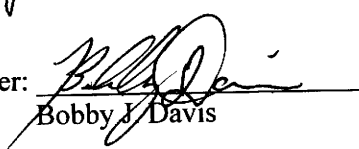
lack of required concurrence with the procedure by safety subject matter experts, lack of designation of hoisting and rigging or fall protection on Attachment 1, Phase 4 (Industrial Safety), lack of full identification of hazard controls for manual lifting and ergonomics, lack of definitive requirements to provide EWP training for new or transferred employees coming into an ongoing job, and lack of a requirement for the training in each EWP to be documented for the affected employees in the BNFL training database.

**SME-SAF.1-3-OFL.4** PO-CS-003, *Readiness Assessments/Certifications*, Appendix 2, "Readiness Assessment Certification Checklist," should make specific references for the need to have a currently implemented maintenance program for the equipment to be used and facilities to be restarted and for the need to have current job hazard analyses for the work.

**SME-SAF.1-5-OFL.5** PR-SS-068, *Health and Safety Plan*, Section 6, and PO-CS-500, Attachment 8.1, "Training Needs Assessment Checklist," should be revised to include the requirement to train employees on specific EWPs.

**Noteworthy Practices**

None.

Team Member:  John D. Pearson	Team Leader:  Robert D. Dempsey
Subteam Leader:  Bobby J. Davis	Date: <u>7/14/00</u>

SME-SAF.1-7

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Training and Qualification	<b>OBJECTIVE:</b> SME-T&Q.1 <b>DATE:</b> July 13, 2000
--	---

### OBJECTIVE

BNFL's policies, procedures, and documents for training and qualification of employees are established and are adequate for the work or process to be performed safely. (CE-I-5)

### Criteria and Discussion of Results

**SME-T&Q.1-1** BNFL's policies, procedures, and documents ensure that adequate controls associated with a training and qualification program are in place prior to commencing work and that the controls remain in effect as long as work is taking place.

Discussion of Results – The BNFL Training and Qualification Program is in place and addresses the areas in the DOE P 450.4, SAFETY MANAGEMENT SYSTEM POLICY, dated October 1996. The project training program is documented in PO-CS-500, *Training Plan*, Revision 3, dated May 31, 2000. This policy covers all project participants, including subcontractors. Training, oversight, and support are provided by the Training and Support organization. Training requirements and controls are also documented and flowed down into subcontracts. Interviews were conducted with various levels of management and staff as to documentation of the training and qualification program.

*The criterion was met.*

**SME-T&Q.1-2** BNFL's policies, procedures, and documents provide mechanisms or processes to ensure training and qualification compliance requirements are met prior to conducting operations or performing work.

Discussion of Results – BNFL has mechanisms in place at both the contractor and subcontractor levels to ensure that training and qualification requirements are met prior to performing work. These mechanisms include such tools as training needs assessments, which identify mandatory, programmatic, and task-specific requirements. The EWP process also identifies training requirements for specific tasks (i.e., on-the-job training, fire watch, etc.) to be performed. Other controlling mechanisms include the training matrix, which is prepared by the Training and Support organization, that identifies the training required, scheduled, and completed by individuals for each supervisor's direct reports or crew. It is clear in the documentation that each supervisor is required to ensure that no worker performs a task if they are not qualified.

*The criterion was met.*

# ISMS VERIFICATION ASSESSMENT FORM

## BNFL Inc.

### Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Training and Qualification	<b>OBJECTIVE:</b> SME-T&Q.1 <b>DATE:</b> July 13, 2000
--	---

#### SME-T&Q.1-3

**BNFL's policies, procedures, and documents ensure that training and qualification controls for individual processes or activities are established prior to commencing work.**

**Discussion of Results** – The BNFL Training and Qualification Program, which is documented in PO-CS-500, *Training Plan*, Revision 2, incorporates the identification of roles and responsibilities, duties, and qualifications through Position Descriptions. In addition, training requirements are also captured in policies, procedures, and EWPs. The BNFL Training Program database records all training received by project participants who are on the site for more than 30 days. Most individual work processes or activities are documented in procedures or EWPs that provide training and qualification controls which must be met before work is commenced.

However, in reviewing several EWPs, it was noticed that the training requirements listed on the EWP also requested on-the-job training. Neither PO-CS-500, *Training Plan*, nor PR-RO-005, *Enhanced Work Planning*, defined the requirements or process for on-the-job training. Furthermore, on-the-job training was conducted in both the Waste Management and Removal Operations areas with documentation provided.

Another area reviewed showed that supervisors are required by procedure to assure that personnel meet all training requirements, including those addressed by the EWP. However, it is unclear though the documentation (i.e., *Training Plan*) whether EWP training is required to be captured in the training needs assessment and documented in the training matrix that is sent out periodically to each supervisor. Various documents were reviewed to determine how new or revised documents, which may have training requirements, are handled. PO-CS-500, *Training Plan*, Revision 2, does not address how training requirements for new or revised documents are to be captured. PR-CS-001, *Required Reading*, does address a process for evaluating documents for candidates for required reading training. However, it does not cover other documents outside of that process.

***This criterion was not met.***

#### SME-T&Q.1-4

**BNFL's mechanisms for the control of work specify that line management is responsible for training and qualification of employees.**

**Discussion of Results** – PO-CS-500, *Training Plan*, clearly states that line management (i.e., manager, group manager, supervisor, and foremen) are responsible for assuring that training and qualifications requirements are met by employees. In addition, procedures also delineate this responsibility.

***The criterion was met.***

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Training and Qualification	<b>OBJECTIVE:</b> SME-T&Q.1 <b>DATE:</b> July 13, 2000
--	---

SME-T&Q.1-5

**BNFL personnel who plan, control, and conduct work are required to have competence commensurate with the assigned responsibilities.**

**Discussion of Results** – Each BNFL employee brings a base competency to the project, consisting of the knowledge, skills, and education needed for the base job position. Personnel are hired for specific position based on the job description established for a position. This description identifies the minimum qualification requirements for the position. The process for arriving at a “trained and proficient” employee involves the (a) base competency, (b) developing a needs assessment, and (c) EWP training where required.

*This criterion was met.*

### **Record Review**

- BNFL-rated “Safety Management Program Checklist”
- “External Independent Review of BNFL Operations and Projects for the U. S. DOE,” Draft, June 7, 2000
- PO-SS-017, *Integrated Safety Management Program Description*, Revision 0, May 24, 2000
- Report from the Contracted Independent Assessment of the Quality Assurance Program, October 1999
- Lessons Learned bulletins Nos. 24 and 25, dated May 15, 2000, and June 6, 2000, respectively
- Report from the Independent Assessment and Followup to the General Manager’s Review of ISM in December 1999. This review took place in May 2000.
- Issues Management database printout for training issues, June 20, 2000
- Report from the Management Assessment of Training, May 1999
- Report from the ISMS Assessment of Surveillance and Maintenance Instruction, EWPs, and Role Proficiency Records, October 1999
- Printout of Required Reading database, June 22, 2000
- II-IS-011, *Hazard Communication*, Revision 1, December 22, 1997
- II-IS-006, *Confined Space Entry*, Revision 2, January 28, 1998
- PR-CS-500, *Records Management*, January 27, 2000
- On-the-job training records for plasma arc cutting and operation of the pipe sectioning machine
- PR-CS-001, *Required Reading*, Revision 0, February 14, 2000
- PR-NM-004, *MC&A Training Program*, Revision 0, February 15, 2000
- PR-CS-010, *Stop Work Authority*, Revision 0, April 3, 2000
- PO-CS-500, *Training Plan*, Revision 2, May 18, 2000
- PR-RO-005, *Enhanced Work Planning*, Revision 1, May 2, 2000
- PR-RO-200, *Electrical Lockout/Tagout*, Revision 0, April 3, 2000
- PO-SS-004, *Training/Qualification*, Revision 0, March 22, 2000
- PO-SS-012, *Record Keeping and Documentation*, Revision 0, March 22, 2000
- PIPE-019, *G-17 Valve Assembly and Packaging EWP*
- PIPE-006, *Freon Pipe and Condensers EWP*
- EWP-SC-BN-01, *Cut Synchronous Condensers Free*
- EWP-EL-1010, *Electrical Equipment Removal*

SME-T&Q.1-3

# ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

## Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Training and Qualification	<b>OBJECTIVE:</b> SME-T&Q.1 <b>DATE:</b> July 13, 2000
--	---

- EWP-CONV-004-REV0, *Tube Bundle Removal from Shell*
- EWP-WM-00-401, *Container Handling*
- EWP-WM-001, *Moving, Cleaning, Lifting, and Surveying Materials for Unconditional Release*
- Position Descriptions for the Support Services Manager and the Material Tracking & Accountability Officer

### Interviews

- BNFL General Manager
- BNFL Waste Management Operations Manager
- BNFL Removal Operations Manager
- BNFL Support Services Manager
- BNFL Compliance Support Manager
- BNFL Training and Support Manager
- BNFL Acting Subcontracts Manager
- BNFL Training Specialist
- BNFL Converter/Compressor Group Manager
- BNFL Quality Assurance Manager

### Conclusion

*This objective was met.*

### Opportunities for Improvement

- SME-T&Q.1-3-OFI.1** The process and requirements for identification of the need for and conduct and tracking of on-the-job training should be addressed in the training program documentation (i.e., PO-CS-500, *Training Plan*).
- SME-T&Q.1-3-OFI.2** A process for capturing and tracking training requirements identified through the EWP process should be addressed in the training program documentation.
- SME-T&Q.1-3-OFI.3** The process for capturing and tracking training requirements for new or revised policies, procedures, etc., (outside of the required reading process) needs to be clearly defined to assure that personnel receive required formal training on same before performing work.

### Noteworthy Practices

None.

ISMS VERIFICATION ASSESSMENT FORM

BNFL Inc.

Phase I Assessment Form

<b>FUNCTIONAL AREA</b> Subject Matter Expert (SME) – Training and Qualification	<b>OBJECTIVE:</b> SME-T&Q.1 <b>DATE:</b> July 13, 2000
--	---

Team Member: <u>Tyrone Harris</u> Tyrone Harris	Team Leader: <u>Robert D. Dempsey</u> Robert D. Dempsey
Subteam Leader: <u>Bobby Davis</u> Bobby Davis	Date: <u>7/14/00</u>

SME-T&Q.1-5